

**Knowledge Management: Performance Evaluation for Culture Development in
Sharing Knowledge at UTP**

By

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Dissertation submitted in partial fulfillment of
the requirements for the
Bachelor of Technology (Hons)
(Business Information Systems)

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Universiti Teknologi PETRONAS

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CERTIFICATION OF APPROVAL

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A project dissertation submitted to the
Business Information System Programme
Universiti Teknologi PETRONAS
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BACHELOR OF TECHNOLOGY (Hons)
(BUSINESS INFORMATION SYSTEM)

Approved by,

.....
(Dr P.D.D Dominic)

UNIVERSITI TEKNOLOGI PETRONAS

TRONOH, PERAK

MAY 2012

CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

MUHAMAD FIRDAUS BIN ABDUL MANAF @ ISMAIL

ABSTRACT

This project implements one of the aspects in Knowledge Management that is performance evaluation. To be specific it will focus on the aspect of developing culture of sharing knowledge in Universiti Teknologi PETRONAS (UTP). This aspect is being chosen because currently this is the aspect that is ready to be evaluated in UTP. The main objective is to ensure that the basic development of the whole knowledge management infrastructure in UTP had reached an optimum standard in the industry of higher learning institute. Implementing of Knowledge Management (KM) is not only focused on the business organization but also in educational institutions.

The usages of KM become more important in higher learning institution due to the knowledge available not only from the lecturer but also from all the community in the campus. This project is basically will identify the quality of the states of implementing of KM in UTP based on the focus aspect that is developing culture of sharing knowledge. Hence this project also helps to preserve the knowledge as the higher learning institution's competitive advantages.

KM tools that specific in doing performance evaluation is selected in order to perform is project. All the result of this research will be publish in a portal that have additional feature like forum page, document sharing page, article sharing from experts and etc.

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12705

Business Information System

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CHAPTER 1

PROJECT BACKGROUND

Background Study

Implementing of Knowledge Management (KM) is not only focused on the business organization but also in educational institutions. The usages of KM become more important in higher learning institution due to the knowledge available not only from the lecturer but also from all the community in the campus. There is a need in revolution from conventional education and the usage of latest technology in enhancing the quality of knowledge.

This project is basically will identify the quality of the states of implementing of KM in one organization. As the KM is widely implemented in this current organization, there is still lack of standard awareness that might affect the quality of the knowledge shared. Current higher learning institutions also have more knowledge appear from research and etc. Hence this project also helps to preserve the knowledge as the higher learning institution's competitive advantages.

1.1 Problem Statement

- 1) Higher learning institution has a lot of knowledge available and need to be preserved and managed very well as the knowledge will be the competitive advantaged for the nation.
- 2) Some higher learning institution has lack of capabilities in managing the knowledge around the campus especially in creating culture of sharing between the communities.

- 3) Higher learning communities do not recognize and respond to the changing role in knowledge based society.
- 4) Higher learning institutions do not consciously and explicitly managing the processes associated with the creation of their knowledge assets and recognize the value of their intellectual capital to their continuing role in society.

1.2 Scope of Study

Scope of study for this project will be focused on the assessing the implementation of KM in the campus of UTP. This project will identify the current condition of KM implemented UTP and will provide sufficient review and recommendation towards a better implementation of the KM in higher learning institution. This study will be a benchmark to other higher learning institution for a betterment of standard in implementing KM.

1.3 Objectives

- 1) To evaluate the implementation of KM in UTP in the aspect of culture in sharing knowledge.
- 2) To understand the variation of implementing KM in difference environment.
- 3) To improve the efficiency and effectiveness of creation of knowledge and the sharing of knowledge among people.

1.4 Feasibility studies

1.4.1 Technical Feasibility

The scale of this project is in a small to medium scale due to it being developed individually and it caters the small portion of the introduction to

the real KM system, which also minimize the development risks. Furthermore, this project will be developed in Open Source environment and uses the Microsoft Office suites as the supporting tools that is easier to maintain.

1.4.2 Operational Feasibility

Operational feasibility is mainly concerned with issues like whether the system will be used if it is developed and implemented. Whether there will be resistance from users that will affect the possible application benefits? The essential questions that help in testing the operational feasibility of a system are following.

For this project the operational feasibility mainly will be answered by the question below:

- 1) Does management support this project?
 - a. Management of UTP will support this project as the Knowledge Management performance evaluation in development of culture in sharing knowledge because it is highly needed in this current environment where people are still unaware whether the implementation of the KM system in the higher learning institution is done properly or not.
- 2) Are the users not happy with current knowledge management practices? Do they will welcome the change and the new system?
 - a. For UTP the implementation of KM is still in early phase's and not fully understandable. Hence some of the related party might not feel happy with the way the management implement the KM.
 - b. Yes, de will welcome the change to the new system as they also promote the basic understanding of KM implementation.

- 3) Will the proposed implementation really benefit the organization? Does the overall response increase? Will accessibility of information be lost? Will the system affect the customers in considerable way?

Yes it will definitely benefit the organization due to the enhancement of KM implementation

1.4.3 Schedule Feasibility

The time frame that is desirable for the system is 7 months. The development process will involve 5 different phases which are based on the prototype methodology. The planning, analysis and data gathering will be conducted in the first 3.5 months, while the rest will be conducted in the remaining 3.5 months.

1.5 Gantt Chart

FYP1	Week													
Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Title selection/proposal														
Submit proposal to research cluster														
Literature review														
Consulting the experts														
Submit Extended proposal														
Gathering data														
Pre-survey preparation														
VIVA: Proposal Defends														
Compiling data														
Submit Interim Report														

Figure 1 FYP1 Gantt Chart

CHAPTER 2

LITERATURE REVIEW

1. Knowledge Management in Higher Learning Institutions

Academic institutions have to meet the growing challenges of the new education and training needs of the economy, the shifting of demand of employers and the changing aspiration of students. To meet these challenges of expanding educational scenario, new technology and implementation have to be embraced. (Gayatri Doctor, 2006). More research and studies have been conducted and also the related information and knowledge is needed to be preserved and managed.

Development of high quality e-learning material is resource intensive and time consuming, however, electronic material has the theoretical advantages to be sharable, reusable and can be modified indefinitely to adapt it to the new learning and teaching technique and requirement. There is a growing requirement for good quality, reusable e-learning material in training and educational programs.

Repositories are important for universities and colleges in helping to manage and capture intellectual assets as a part of their information strategy. A digital repository can hold a wide range of material for a variety of purposes. It can support research, learning and administrative process. (Helen Hayes, 2006)

Can an organization improve without first learning something new? Solving a problem, introducing a product, and reengineering a process all require seeing the world in a new light and acting accordingly. (David A Garvin). That is the reason why the KM scholar introduces the KM performance evaluation in order to ensure that the implementation of KM can really support the knowledge itself.

Higher education institutions abound in potential knowledge repositories, from the corporate financial databases, and the marketing department's database of prospective

students to the library and collections of documents, electronic and print, owned by individual tutors. These various databases provide access variously to internally generated data about the organisation's operations (such as student records, or catering supply orders), and external, published documents and databases, accessed through libraries, bookshops, and the Web and other on-line services. Whether it is appropriate to describe some or all of these databases as knowledge repositories is an interesting question. Universities, whilst being in competition, also participate in a wider knowledge creation process which leads to the creation of knowledge repositories on which future generations of scholars and researchers may draw.

In general, then, universities do not lack data, and in some senses, knowledge repositories, but few organisations have an integrated collection of knowledge, embedded either in one knowledge repository, or in a series of linked repositories. In order to facilitate the operation of knowledge based operation these need to encompass both internal and external knowledge, and explicit and elicited tacit knowledge, in support of the evolution of the business. We are a long way from a scenario in which each member of the community that is the university has access to the combined knowledge and wisdom of others in the organisation, and has access to that knowledge in a form that is packaged to suit their particular needs. In general we have not made explicit the knowledge requirements of different segments in the university community. Many institutions have taken the first step, and have created converged library and information systems departments, but this restructuring is often more systems driven than knowledge driven. (Jennifer Rowley, 2000)

Based on the study in 2005, the implementation of Knowledge Management (KM) in Malaysian higher education is still in the intermediate level. Only 47.1% of Public Institution of Higher Education has implement or starting the implementation process of KM in their organization. Other universities still not implement KM in their organization or not sure about this thing. (Suhaimi et. Al, 2005)

Only one university claimed that they has fully implemented KM and other are still in progress or in the initial stages or not even starting the implementation of KM yet.

Knowledge sharing culture becomes more popular in every organization. Once the culture is developed, it is supported by the existing of “story-telling” process that speedup the whole thing. Management starts to promote knowledge workers to use stories to boost up KM internally, share knowledge and facilitate collaboration within the organization. Here we can conclude that knowledge sharing culture is a part of critical success factor in the implementation of Knowledge Management in an organization.

The component within the knowledge management community is that 80% of knowledge management is people and culture, and 20% is technology. A key component of the people and culture factor deals with encouraging and promotes a knowledge sharing environment within the organization. (Liebowitz, 1999; Davenport and Grover, 2001)

From the study in 2005, several suggestion is needed to motivate the community in the university to get involves in knowledge sharing. For example Malaysian universities need to establish a new policy through the Ministry of higher Education particularly motivation the people to share and use knowledge by offering incentive and advantages. (Suhaimi et.al, 2005)

Lastly from the aspect of communities of practice, they have their own role which is highly important in the knowledge management. Study showed that the top management got the highest ranking of role and contribution in the whole process of knowledge management.

CHAPTER 3

METHODOLOGY

3 Research Methodology

The research methodology section represents the strategies that consist of collecting and analyzing data collected in order for meaningful analysis and interpretations of the research findings to be present. This section focuses on giving the insights on how the research is carried out. This includes the mode of data collection, how the data is analyzed and the research tool design

Information for this research work are collected through primary and secondary sources with the combination of:

- (1) Interview with the key personnel in the Knowledge Management Unit, Information Resource Centre UTP and also selected respondent which is form UTP students.
 - a. See Appendix 1
- (2) Survey conducted for selected target especially the student from all faculty and all years
 - a. See Appendix 2
- (3) Usability survey to test the usage of the prototype of the portal
 - a. See Appendix 3

3.1 Sample Design

3.1.1 Defining the population

An Knowledge Sharing survey has been conducted in the campus on random selected personnel such as students from all relevant departments which are the: (1) Department of Chemical Engineering, (2) Department of Civil Engineering, (3) Department of Geosciences & Petroleum Engineering, (4) Department of Engineering & Electronic

Engineering, (5) Department of Computer and Information Sciences and last but not least, (6) Department of Fundamental & Applied Sciences.

3.2 Method for data presentation and interpretation

The data gathered from all sort of way will be transformed into graphical method to make it easier to be interpreted. Basically it comes in forms of

1. Qualitative data like what that have been gathered from the interviews sessions with the UTP KM Unit Personnel and selected respondent from student's community.
2. Quantitative data that are derived from the survey and portal usability test will be utilized into of bar charts and pie charts to identify and differentiate the percentage or value obtained from different group of respondents.

3.3 Prototype Methodology

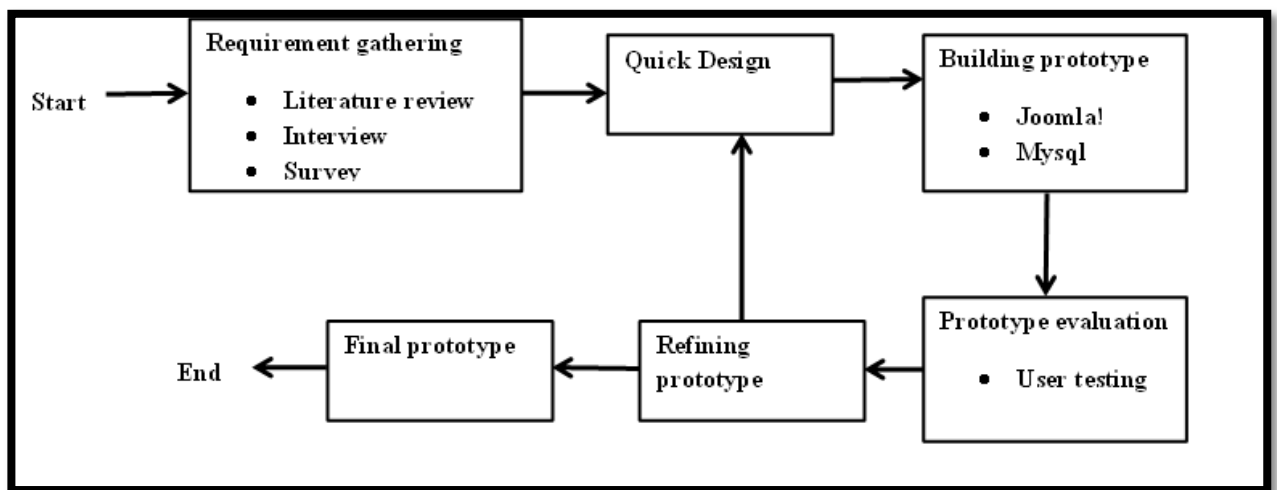


Figure 2 Prototype Methodology

A prototyping methodology is a software development process which allows developers to create portions of the solution to demonstrate functionality and make needed refinements before developing the final solution. (<http://www.information-manageme architect.com/prototyping-methodology.html>)

3.4 Project Activities

This project consists of four main activities, which are (1) the Planning Phase (2) the Analysis Phase (3) the Design & Development Phase and (4) the Implementation Phase.

3.4.1 Gantt chart and Key Milestone

Task	Week1	Week2	Week3	Week4	Week5	Week6	Week7	Week8	Week9	Week10	Week11	Week12	Week13	Week14
Continuation Works							M I D S E M							
Data Gathering														
Site map drafting														
Interface development														
Submission of progress report						*								
Data and information analysis														
Draft prototype														
Pre-SEDEX										*				
Usability Test														
Submission of Dissertation											*			
Viva													*	
Submission of Technical Report														*
Submission of Final Dissertation														*

Figure 3 Gantt Chart and Key Milestone

Based on the Gantt chart, 12 weeks are estimated for the development Knowledge Sharing Portal. For the first half of the semester they are dedicated solely for data gathering, sitemap drafting and interface development. By week 9, prototype of the portal is ready to be tested.

A usability testing will be conducted on week 10, which the portal will operate in 80% completion with minimal data for the developer to do testing and do adjustment.

After the pre-SEDx which is week 11 onwards, Knowledge Sharing Portal will be given a test run using for and final weeks will be completed by week 12.

3.4.2 Planning Phase

During planning phase, the business concept and value of the project is determined and identified. A preliminary studies has been conducted in order to identify feasible aspects of the project and based on this, a project plan has been produced. The deliverables for this phase is the feasibility studies and the project execution plan.

3.4.3 Analysis Phase

During this phase, research has been conducted to investigate and discover the function and the limitation of the proposed project. Research methodology has been identified in order to act as a tool in data gathering to further analyze the capabilities and the limitation of the inventory management tool. After the data gathering activities has been conducted, in depth analysis on the findings also been done in order to identify whether the inventory management tool will accepted and used once it is implemented, and this helps in proceeding the next phase.

3.4.4 Design & Development Phase

All the actions taken along the development of the system are documented under this section. The actions include the development of the interfaces and the functions available.

3.4.4.1.1 Sitemap

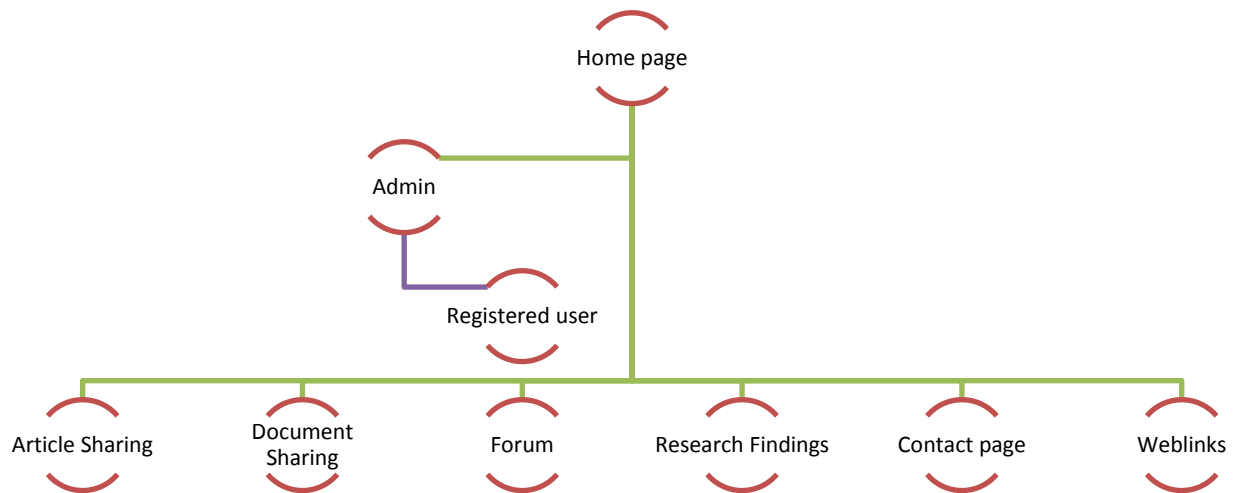


Figure 4 Sitemap of Knowledge Sharing Portal

3.4.4.2 Development Phase

3.4.4.2.1 Portal Interfaces Development

The development of pages in the portal is based on the draft of user interface that suit the function of the portal. Changes happen throughout the whole development process to ensure all function are working properly to meet expectation. Some of the functions are done prior to the functionality. Additional feature are added of necessary.

3.4.5 Tools

The development of Knowledge Sharing Portal involves using open source software with the usage of PHP, CSS and HTML code together with MySQL database.

After the prototype has been completed, application usability test has been conducted which the research methodology has been described in Research Methodology section. The usability test is used to improve any usability problems before it can be implemented to the users.

3.5 Implementation Phase

During this phase, the system will be 100% complete constructed based on the prototype developed and it undergoes several testing in order to ensure it is bug free in order to run properly and produced the desired result.

CHAPTER 4

RESULTS AND DISCUSSION

4 Findings

4.1 Qualitative Data

4.1.1 Interview & Observation

Interview is the most common and direct method to gather information. The initial interview was conducted with the selected respondent which is the representative of students, while the second interview conducted through personal meeting with the Head of Knowledge Management Unit from Information Resource Centre (IRC) UTP Mrs, Sharifah. Below is the interview summary based on the interviews that have been conducted.

Person Interviewed:

1. Muhammad Imran Abukri, Final Year Students, Information & Communication Technology, Universiti Teknologi PETRONAS

a. Question 1: What is your understanding of knowledge sharing and why people afraid to share knowledge?

- i. “In student’s point of view, not every student are aware of what is knowledge management and to be specific the knowledge sharing culture. This might be due to the lack of awareness in the community itself. As a student, I gained knowledge almost all the time regardless of the type of the knowledge gain. In everyday life most of the students prefer to share or communicate their knowledge through many ways including e-mails, Twitter, Facebook, Blogs and YouTube. Furthermore, not all people are willing to share their knowledge to public. It is because the might

afraid that their knowledge that is being shared to others being exploit by others or maybe they are not really confident on the knowledge that is going to be shared. “

b. Question 2: Does current environment in UTP promotes knowledge sharing?

- i. “I think UTP has done their best to promote knowledge sharing for example between lecturer and student and also students with students. I think that it is very good effort for UTP to conduct events such as sharing experiences with student that already success in their careers such as Technology Education Career (TEC).

c. Question 3: In your view, what is the best practice to promote knowledge sharing in UTP?

- i. “Program that will be conducted should break the barrier between the participants. Building relationship between the communities might be a catalyst in promoting knowledge sharing. People from different background and level of authority might not work well in sharing the knowledge.”

2. Mrs Sharifah Fahimah, Knowledge Management Unit, Information Resource Centre (IRC) Universiti Teknologi PETRONAS

- a. As for this year 2012, UTP KM Unit have started with the process of compiling all necessary document but the actual content of KM is not fully ready yet. Even the access to the actual system is restricted to authorized staff only. As according to plan, the KM System should be ready for the user especially the student by 2014. According to Ms. Sharifah from Universiti Teknologi Petronas (UTP) Information Resource Centre (IRC), system is not the main contribution to KM, it contributes only 35% and the rest 65 % is culture.

- b. In UTP what is currently being done is the development of the culture for sharing knowledge. It has been started since 2008 up until 2010. The culture is developed through training and also awareness programs that have been conducted. By 2010 UTP had already come out with the infrastructures but no in term of system infrastructure. Infrastructure here means UTP “How we get people to use the knowledge?” ” Who is the expert?”
- c. The way UTP capture the knowledge in the community is by having a proper knowledge structure or in the more technical term is taxonomy. By saying the word taxonomy here we can say that what are actually the subjects taught in UTP? Are we only talk about Engineering or we talk about other things? Is our research only covers engineering field only or not? This question will lead to the other question that is, is UTP is a learning organization? Learning organization here means the knowledge is distributed, shared and reused in the community. In other word UTP is not ready yet for a full KM Performance evaluation. But we can narrow down the scope for developing culture of sharing knowledge in UTP among focuses the lecturer and the students since UTP are still in the phases of developing culture in the community.

4.1.2 Document Reviews

There are a few documents that need to be reviewed basically if we refer to the formal implementation of Knowledge Management System using Microsoft SharePoint in the year of 2014. Below are the screenshot of document being reviewed for information gathering process.

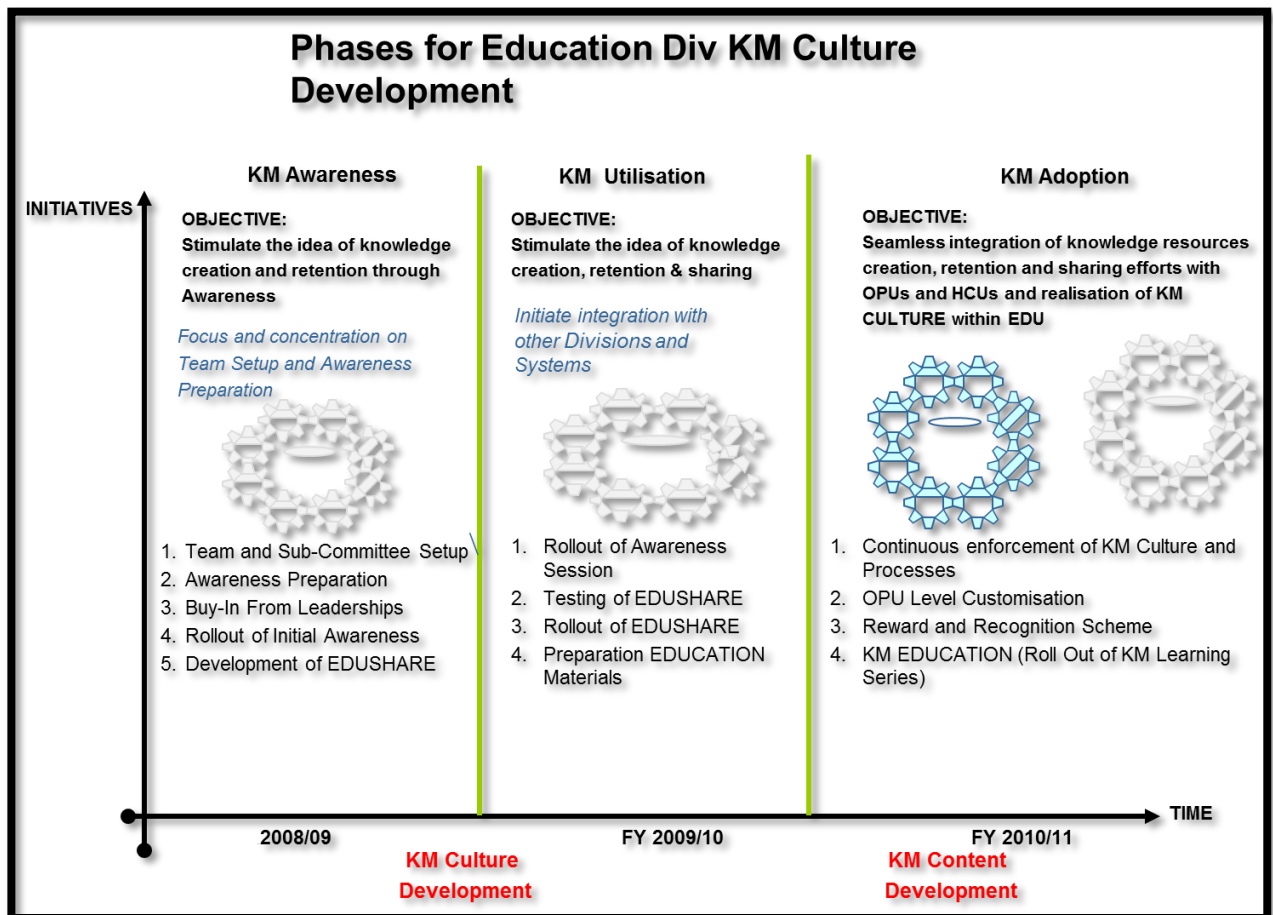


Figure 5 Phases for Education Division KM Culture Development

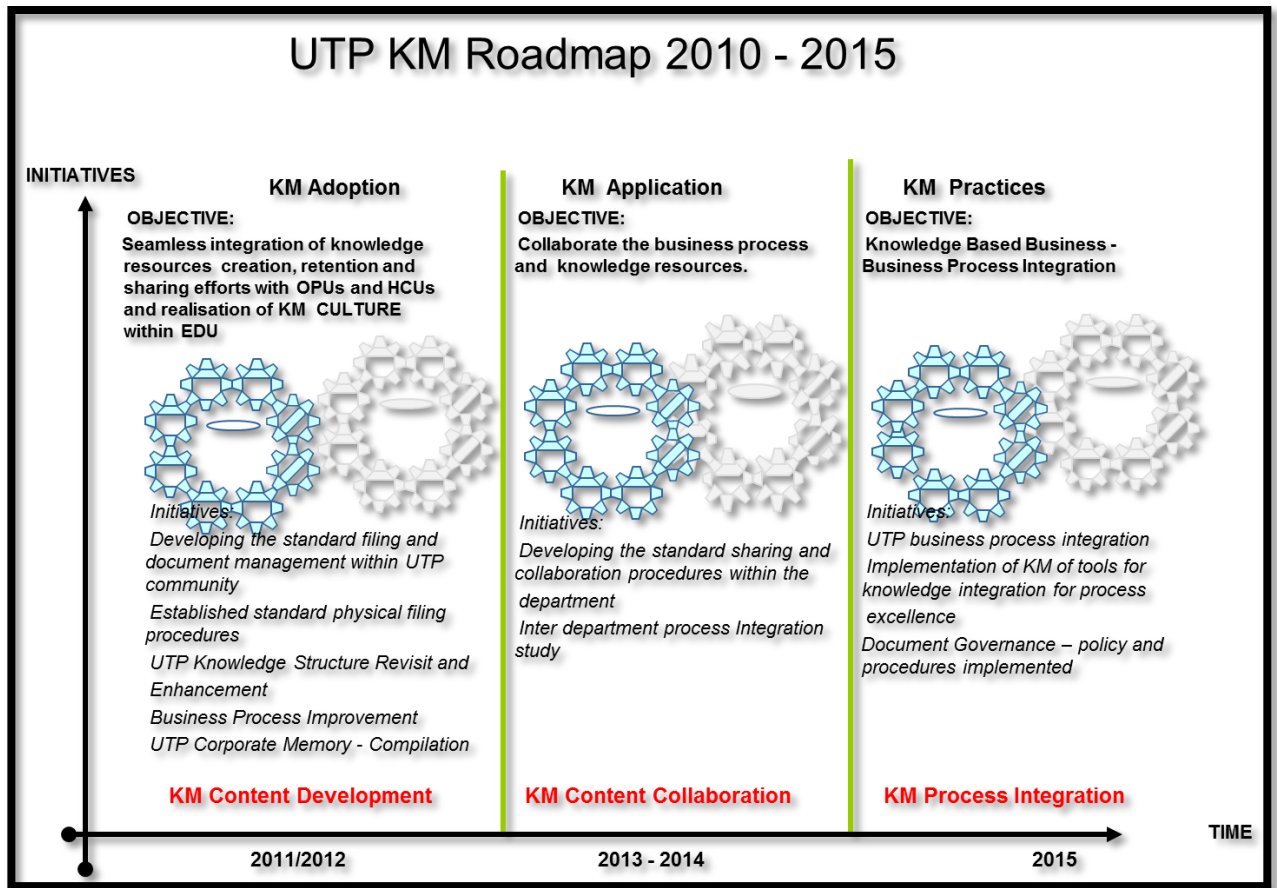


Figure 6 UTP KM Roadmap 2010-2015

Relating to the objective of this portal, is to give basic understanding of the real SharePoint for UTP Knowledge Management System, all necessary information from above document will be put in the Research Finding Page in the Portal to provide more information to the user.

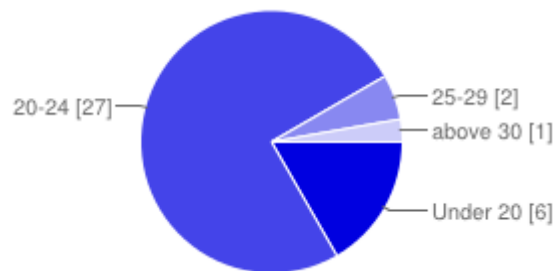
4.2 Quantitative Data

4.2.1 Knowledge Sharing Survey

Knowledge sharing is an activity through which knowledge is exchanged among people, friends, or members of a family, a community or an organization. This survey is created to invite respondent to participate in a survey to obtain your perceptions of factors that affect the knowledge sharing implementation in UTP.

The responses as follows:

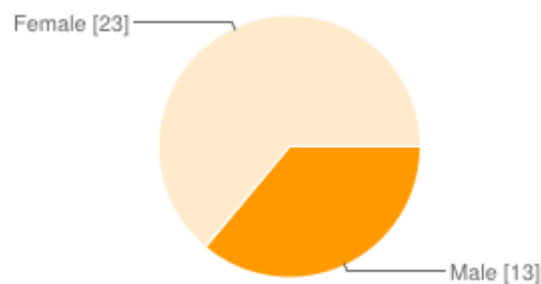
Your age group?



Under 20	17%
20-24	75%
25-29	6%
above 30	3%

Figure 7 Age Group

Please indicate your gender



Male	36%
Female	64%

Figure 8 Gender

What course are you taking?

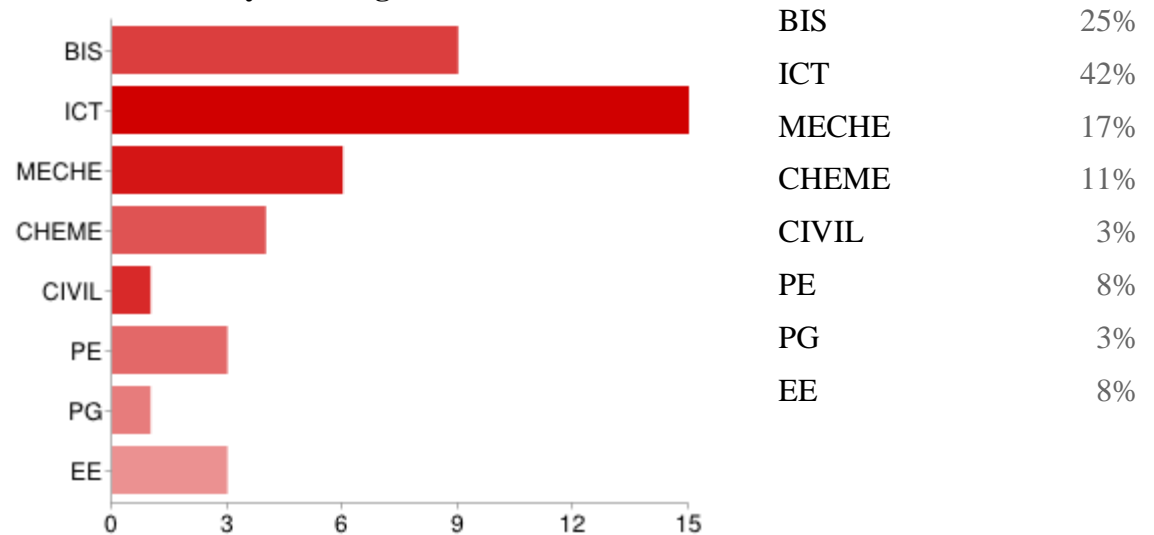


Figure 9 Course

Please indicate knowledge sharing facilities provided in UTP campus

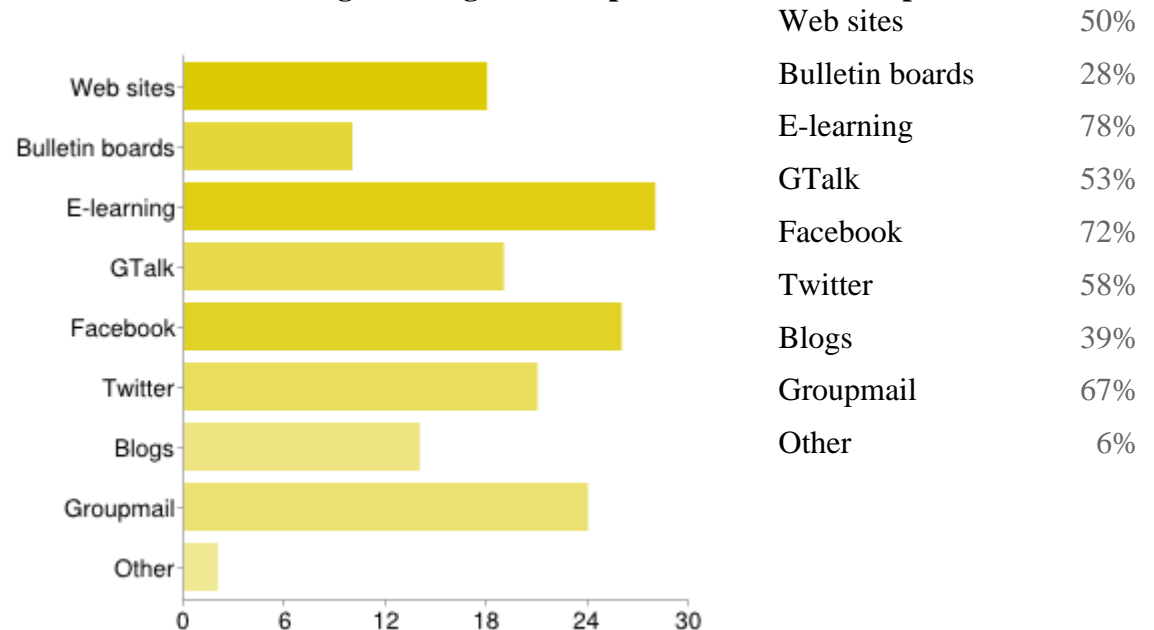


Figure 10 Knowledge Sharing Facilities

What year are you in?

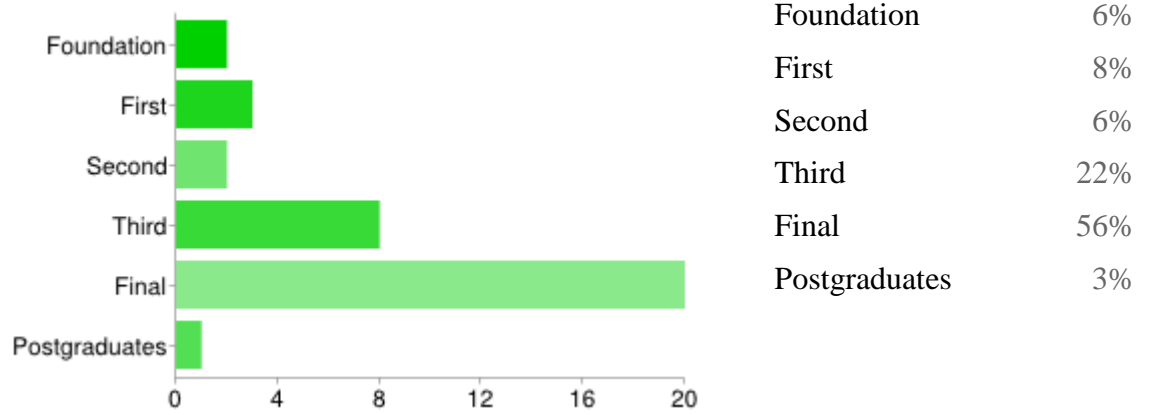


Figure 11 Years of Studies

Learning Environment to support knowledge sharing

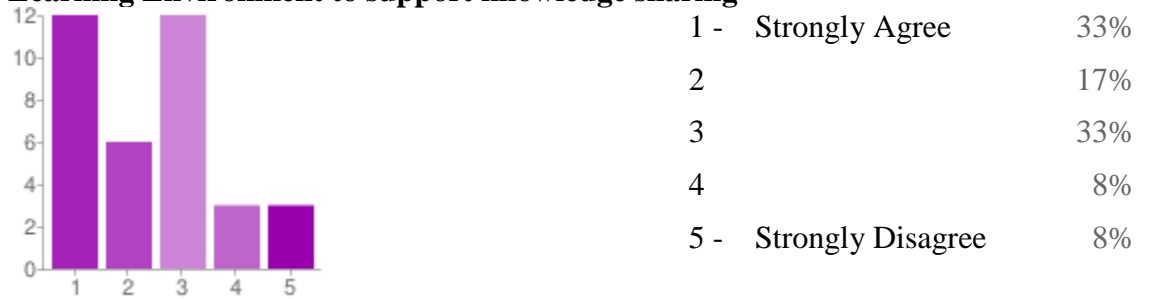
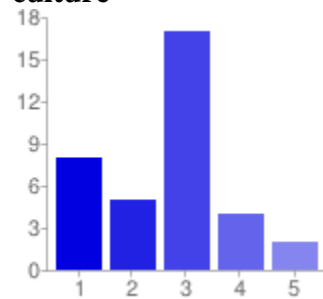


Figure 12 Learning Environment

Strongly
Agree

Strongly
Disagree

Members in this community are free to share ideas because of the “blame-free” culture



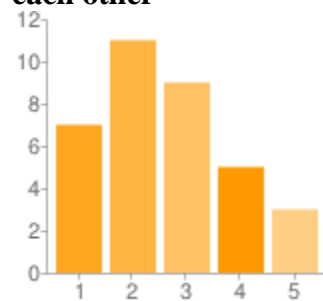
1 - Strongly Agree	22%
2	14%
3	47%
4	11%
5 - Strongly Disagree	6%

Figure 13 Free Share Idea

Strongly
Agree

Strongly
Disagree

Members know each other very well and this helps me to share knowledge with each other



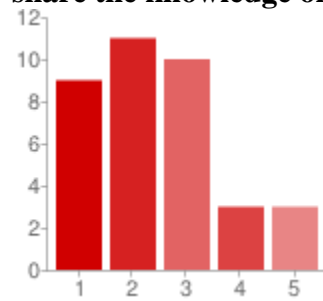
1 - Strongly Agree	19%
2	31%
3	25%
4	14%
5 - Strongly Disagree	8%

Figure 14 Members Factor

Strongly
Agree

Strongly
Disagree

In this community, those who success in their study(graduated) also willing to share the knowledge or information



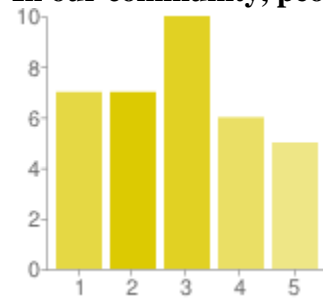
1 - Strongly Agree	25%
2	31%
3	28%
4	8%
5 - Strongly Disagree	8%

Figure 15 Willing to share

Strongly
Agree

Strongly
Disagree

In our community, people tend to wish the success of others



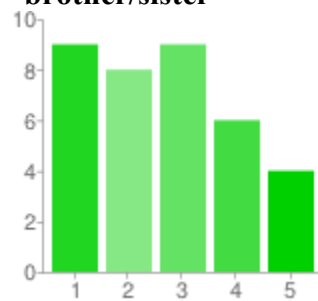
1 - Strongly Agree	19%
2	19%
3	28%
4	17%
5 - Strongly Disagree	14%

Figure 16 Wish the Success

Strongly
Agree

Strongly
Disagree

I feel happy working here because people in this community treat me as their “brother/sister”



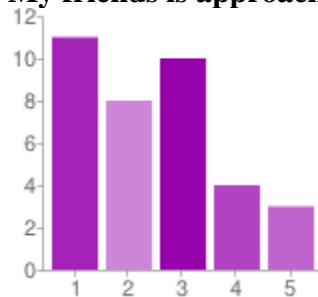
1 - Strongly Agree	25%
2	22%
3	25%
4	17%
5 - Strongly Disagree	11%

Figure 17 Community Factor

Strongly
Agree

Strongly
Disagree

My friends is approachable and friendly with other members



1 - Strongly Agree	31%
2	22%
3	28%
4	11%
5 - Strongly Disagree	8%

Figure 18 Friends Factor

Strongly
Agree

Strongly
Disagree

I only share my knowledge if people ask me for it

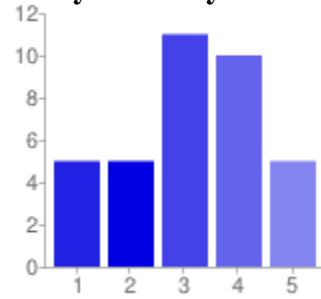


Figure 19 Sharing Factor

Strongly
Agree

Strongly
Disagree

1 - Strongly Agree	14%
2	14%
3	31%
4	28%
5 - Strongly Disagree	14%

I like to work with others to develop my skills and knowledge

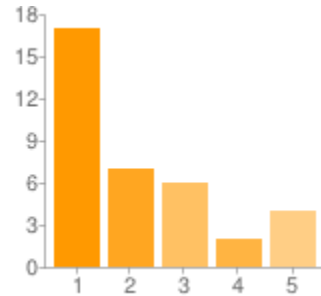


Figure 20 Skills development

Strongly
Agree

Strongly
Disagree

1 - Strongly Agree	47%
2	19%
3	17%
4	6%
5 - Strongly Disagree	11%

Being a university students requires us to frequently share our life experiences with other members

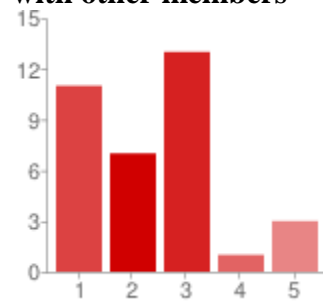


Figure 21 Frequently Share

Strongly
Agree

Strongly
Disagree

1 - Strongly Agree	31%
2	19%
3	36%
4	3%
5 - Strongly Disagree	8%

Working in a discussion group helps me to gain more knowledge rather than working independently

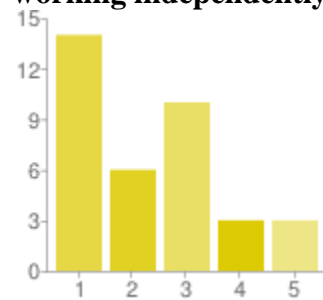


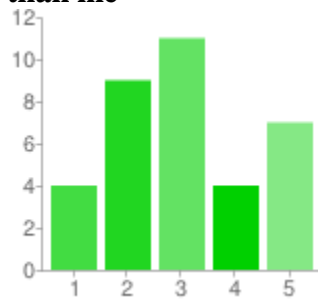
Figure 22 Discussion Group

Strongly
Agree

Strongly
Disagree

1 - Strongly Agree	39%
2	17%
3	28%
4	8%
5 - Strongly Disagree	8%

I feel is too hard to share knowledge with those who are more senior/experienced than me

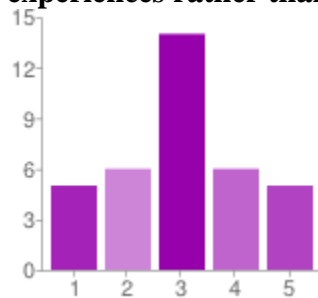


1 - Strongly Agree	11%
2	25%
3	31%
4	11%
5 - Strongly Disagree	19%

Figure 23 Hard to Share Knowledge

Strongly Agree Strongly Disagree

In this community, we let people, especially junior members; learn from their own experiences rather than directly guiding them.

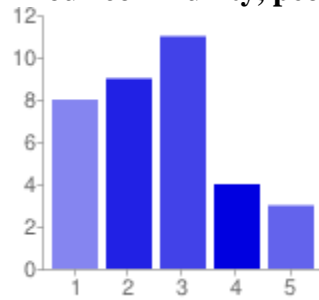


1 - Strongly Agree	14%
2	17%
3	39%
4	17%
5 - Strongly Disagree	14%

Figure 24 Learn from their own

Strongly Agree Strongly Disagree

In our community, people enjoy helping other members



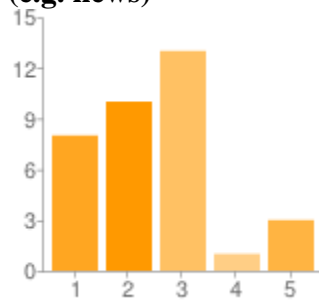
1 - Strongly Agree	22%
2	25%
3	31%
4	11%
5 - Strongly Disagree	8%

Figure 25 Enjoy Helping Others

Strongly
Agree

Strongly
Disagree

In this community we keep team members up to date with current information (e.g. news)



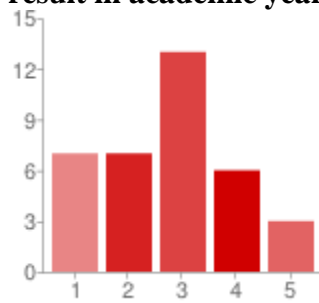
1 - Strongly Agree	22%
2	28%
3	36%
4	3%
5 - Strongly Disagree	8%

Figure 26 Up to date Information

Strongly
Agree

Strongly
Disagree

In this community, people often share tips to excel in study (e.g. how to get best result in academic year)



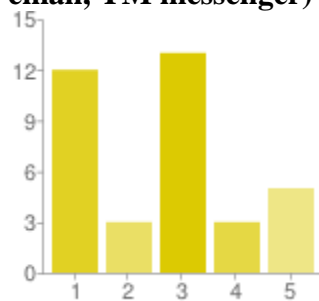
1 - Strongly Agree	19%
2	19%
3	36%
4	17%
5 - Strongly Disagree	8%

Figure 27 Share tips community

Strongly
Agree

Strongly
Disagree

I prefer to communicate and share ideas with members via ICT facilities (e.g. email, YM messenger) rather than face-to-face meetings



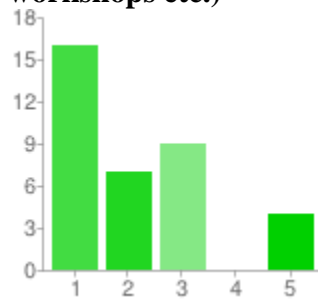
1 - Strongly Agree	33%
2	8%
3	36%
4	8%
5 - Strongly Disagree	14%

Figure 28 ICT facilities

Strongly
Agree

Strongly
Disagree

Email or mailing lists (e.g. Google groups) are good platforms for us to freely disseminate information, (e.g. relating to learning experience, seminars, workshops etc.)

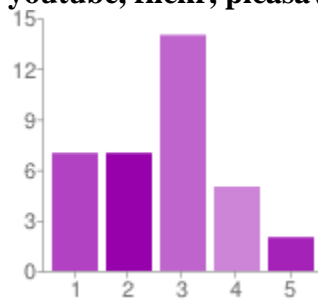


1 - Strongly Agree	44%
2	19%
3	25%
4	0%
5 - Strongly Disagree	11%

Figure 29 Platform to share

Strongly Agree Strongly Disagree

I have opportunity to share the video or pictures through web 2.0 tools (e.g youtube, flickr, picasaweb)

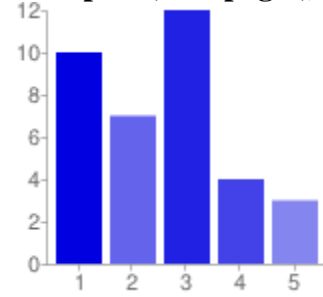


1 - Strongly Agree	19%
2	19%
3	39%
4	14%
5 - Strongly Disagree	6%

Figure 30 Opportunity to share

Strongly Agree Strongly Disagree

I have opportunity to share my life experience through web 2.0 tools(e.g blogspot, wordpress, fotopages,)

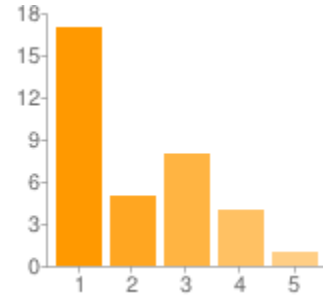


1 - Strongly Agree	28%
2	19%
3	33%
4	11%
5 - Strongly Disagree	8%

Figure 31 Opportunity to share experience

Strongly Agree Strongly Disagree

Facebook and Twitter is part of my everyday activity

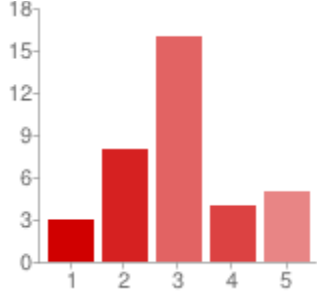


1 - Strongly Agree	47%
2	14%
3	22%
4	11%
5 - Strongly Disagree	3%

Figure 32 Facebook and Twitter

Strongly Agree Strongly Disagree

My community provides an online discussion platform (e.g. web forum, knowledge blogs, community portal) that we often use to exchange study-related ideas



1 - Strongly Agree	8%
2	22%
3	44%
4	11%
5 - Strongly Disagree	14%

Figure 33 Online Discussion

Strongly Agree

Strongly Disagree

4.2.2 Portal Usability Test Survey

This survey is conducted to find out the level of usability of the portal UTP Knowledge Sharing (prototype). You are given 5 minutes to go through the whole portal and another 2 minutes to complete the survey. Your respond will be much appreciated for the betterment of this portal. Thank you very much.

The responses as follows:

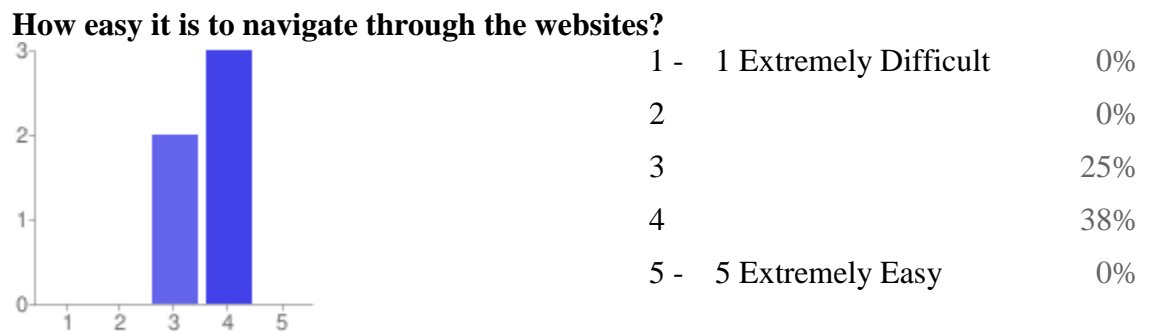


Figure 34 How easy it is to navigate through the websites?

1	5
Extremely Difficult	Extremely Easy

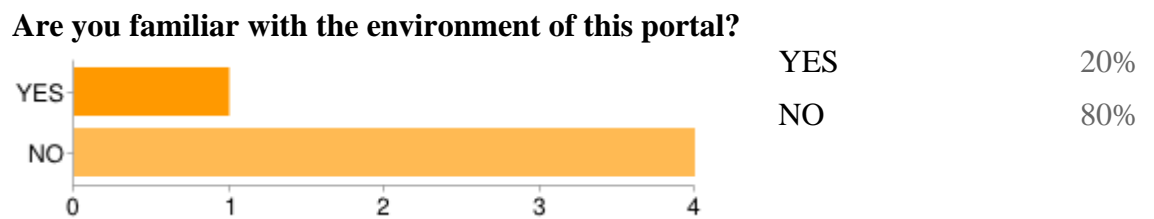
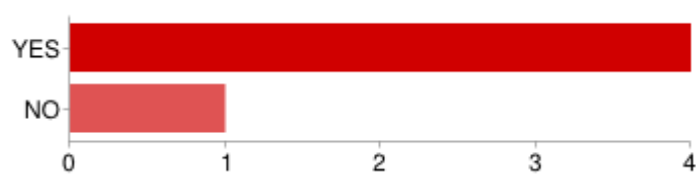


Figure 35 Are you familiar with the environment of this portal?

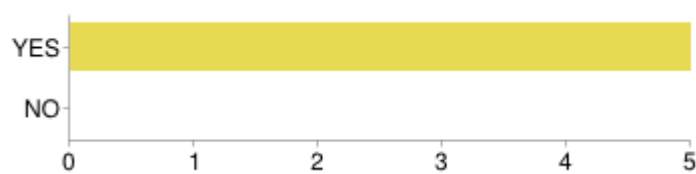
Is the portal consistent from pages to pages?



YES	80%
NO	20%

Figure 36 Is the portal consistent from pages to pages?

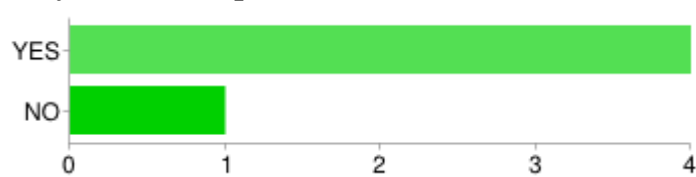
Are the colours suitable for the portal?



YES	100%
NO	0%

Figure 37 Are the colours suitable for the portal?

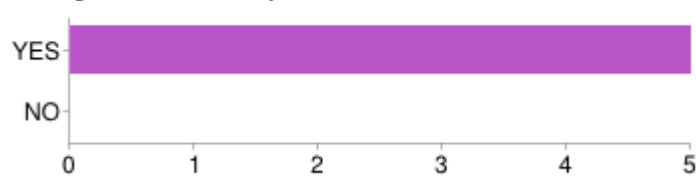
Do you find this portal informative?



YES	80%
NO	20%

Figure 38 Do you find this portal informative?

Navigation tool easy to be located?



YES	100%
NO	0%

Figure 39 Navigation tool easy to be located?

Are you interested enough to use this portal?



Figure 40 Are you interested enough to use this portal?

Summary

78% of the respondent sated that UTP E-learning is one of the Knowledge Sharing facilities provided to share knowledge. 72% also stated that social networking site like Facebook is the medium to share knowledge among student. Apart from that 56% of the respondent agreed that UTP community is willing to share the knowledge among them where only 8% strongly disagree with that statement. This shows that UTP KM still need to develop the awareness of the importance of sharing knowledge among the community. In another aspect 56% of the respondent agreed that working in a discussion group help the gain more knowledge that working individually. By using statistic the KM unit of UTP should be aware of the needed on how to promote knowledge sharing and promote the usage of KM System in the near future. 90% of the respondents understand what in the basic idea of knowledge sharing. In Figure 5, most of the student are talking and interacting with other friends and people in their community almost everyday. This might be supported with the idea that these people are staying in the campus. In other hand, 33% of them that are not really interacting with other people as usual as others.

4.3 Discussion

Based on the results, it can be said that the overall conclusion, UTP community is aware of what is knowledge sharing and the importance of proper Knowledge Management implementation. From the interviews conducted, it can be said that the prototype of the portal will be able to initiate basic understanding of what is knowledge sharing and to prepare the community for the real knowledge management system implementation in the near future. The flow of the proposed prototype would be as follow:

4.3.1 Diagrams

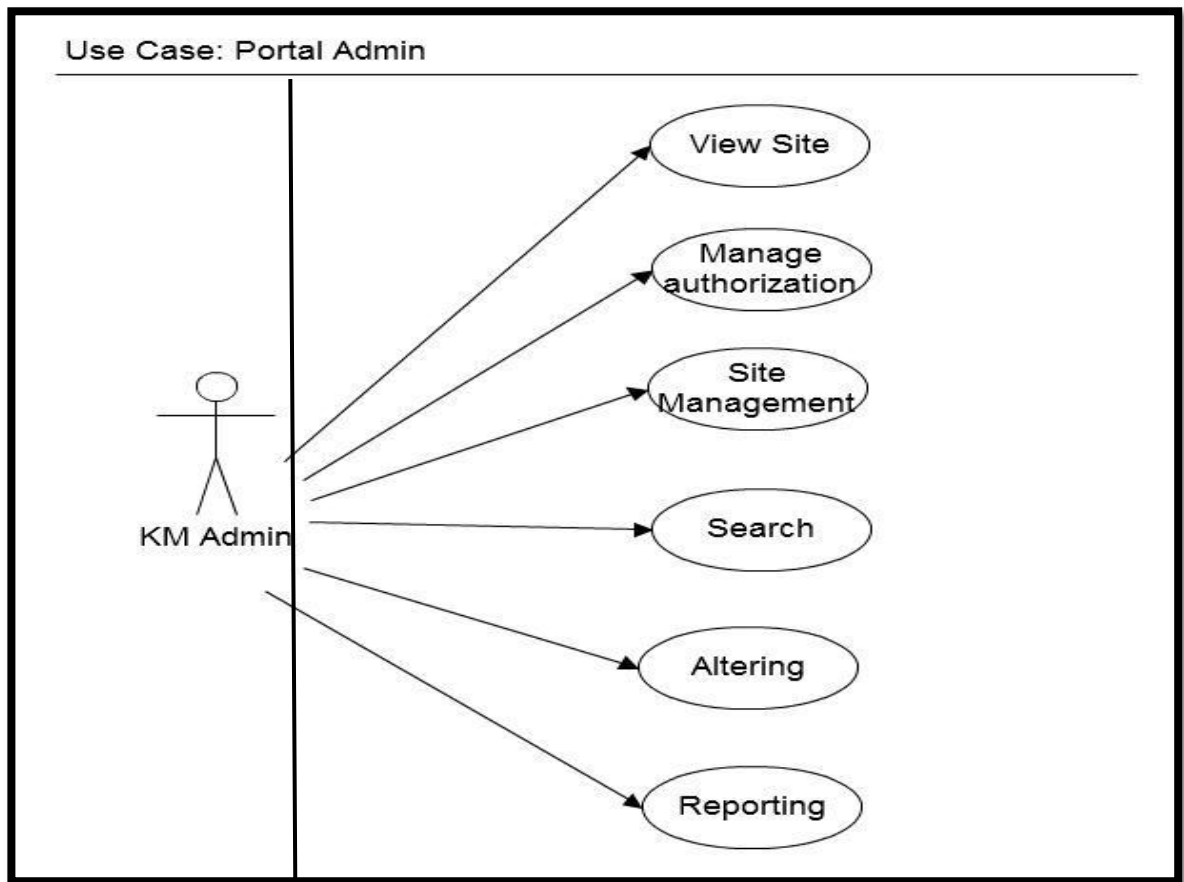


Figure 41 Use case: Portal Admin

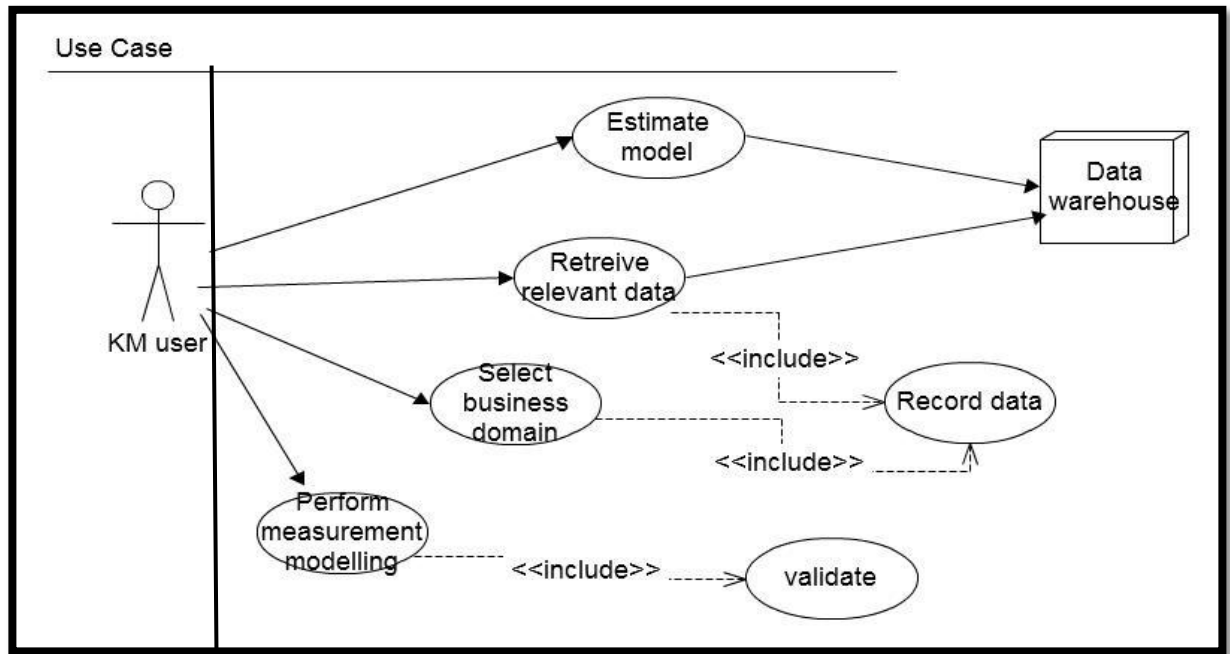


Figure 42 Use Case Diagram

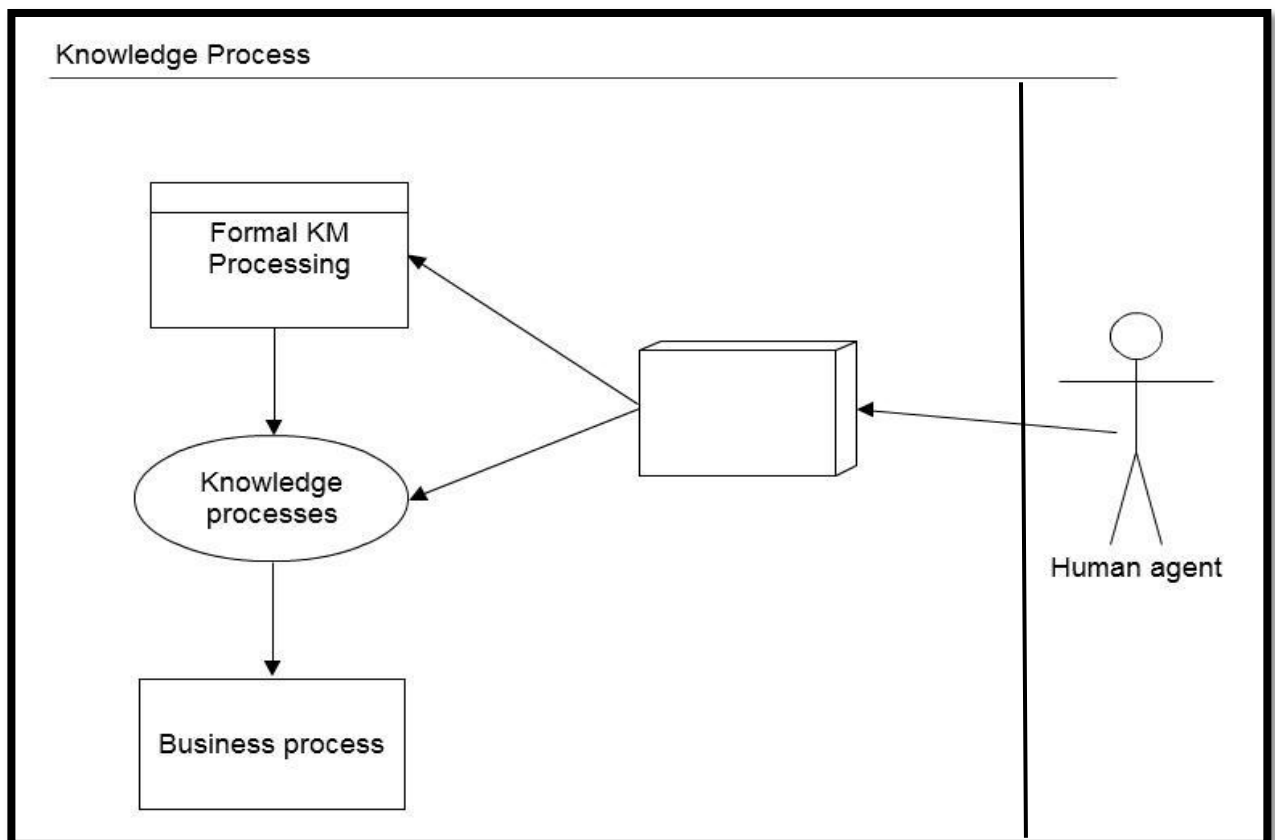


Figure 43 Knowledge Process Diagram

4.3.1 SWOT Analysis

Based on the findings from the interviews, observations and online forum and journal reading, this is the proposed prototype's SWOT analysis:

Table 1 SWOT Analysis

Strength	Weaknesses
<ul style="list-style-type: none">▪ Easy to navigate▪ Easy to implement	<ul style="list-style-type: none">▪ Limited function▪ Need approval to put link on other formal website
Opportunity	Threat
<ul style="list-style-type: none">▪ Interactive feature that can attract user▪ Can easily be access if attached to social networking sites like Facebook and Twitter	<ul style="list-style-type: none">▪ More advancing portal with more function▪ Difficult to attract user▪ Lack of awareness

4.4 Deliverables Interfaces

4.4.1 Home Page

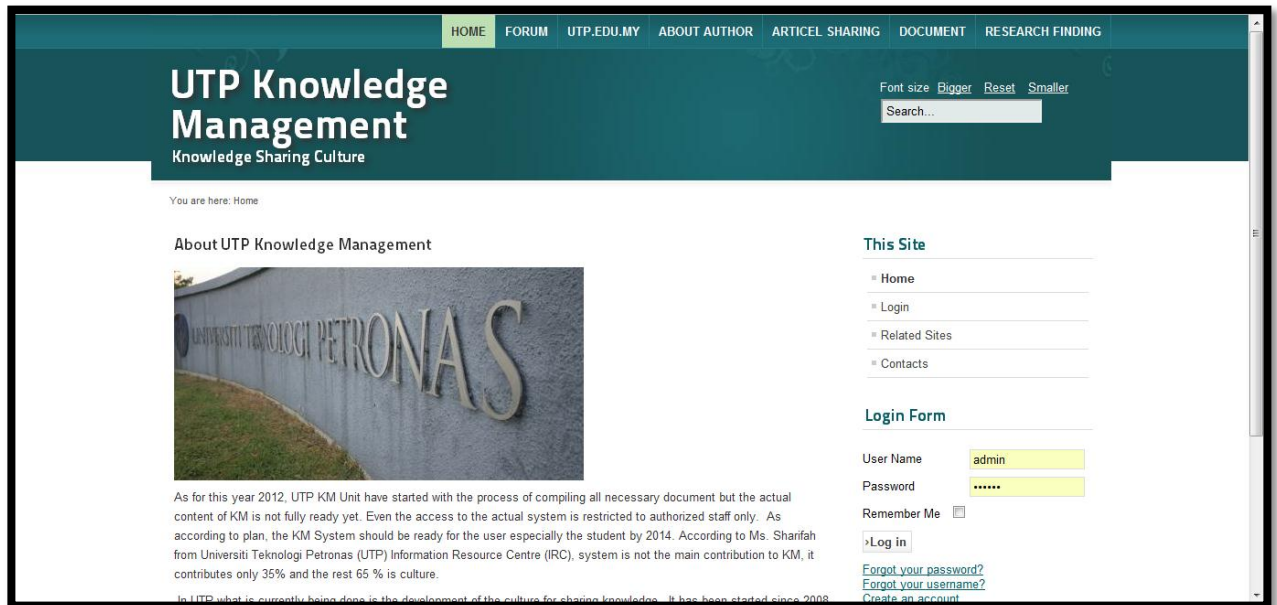
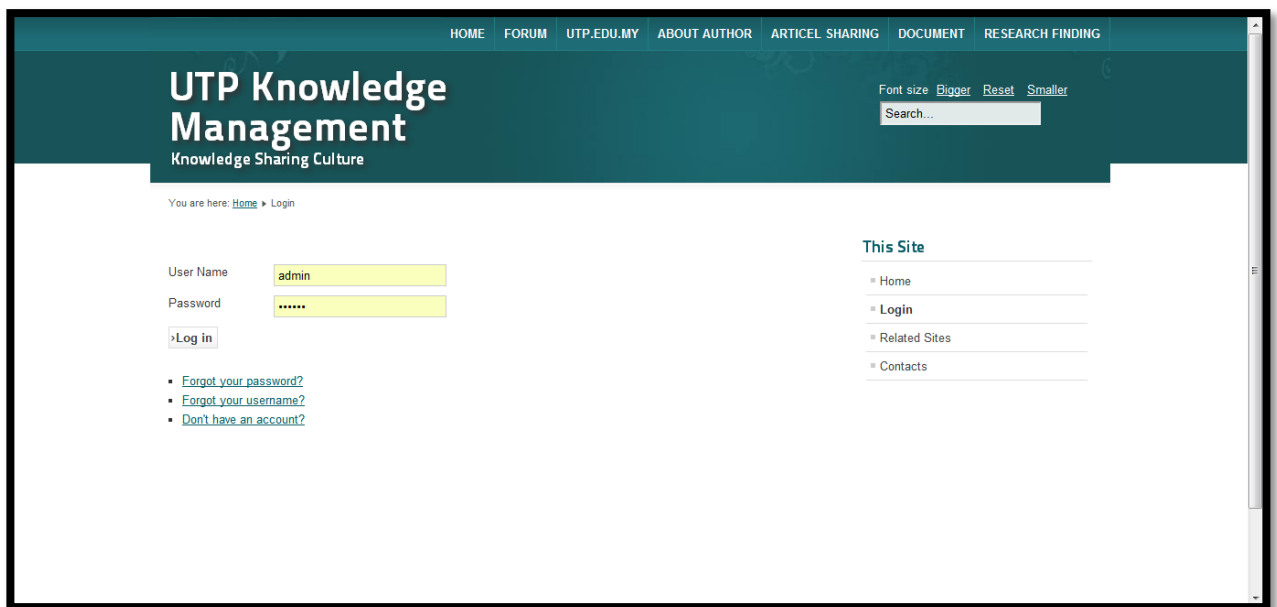


Figure 44 Home Page

Figure 44 show one of the page that available at the portal that is the . Here, the registered user can post and create new entries. The entry will be monitored by the admin and other registered user can participated in the conversation and discussion. Other function that available is the Document Sharing page. In this page the registered user can upload and download document that available at this page. Admin can manage and put restriction if necessary

Other than, experts who were being granted super user access can post article related to their expertise. This will promote knowledge sharing among the user and the community. User also can choose and view latest article by admin regarding the development of sharing culture at Research Finding Page. If there is any inquiries regarding the page or the content, users can directly go to the Contact page to have contact information of the Administrator.

4.4.2 Admin Login Page



The screenshot displays the Admin Login Page of the UTP Knowledge Management system. The page features a dark teal header with the site's name and a navigation menu. The main content area is white and contains a login form with fields for User Name and Password, a Log In button, and links for password and username recovery. A sidebar on the right lists site navigation options.

HOME FORUM UTP.EDU.MY ABOUT AUTHOR ARTICEL SHARING DOCUMENT RESEARCH FINDING

UTP Knowledge Management

Knowledge Sharing Culture

Font size: [Bigger](#) [Reset](#) [Smaller](#)

You are here: [Home](#) » Login

User Name:

Password:

- [Forgot your password?](#)
- [Forgot your username?](#)
- [Don't have an account?](#)

This Site

- » Home
- » **Login**
- » Related Sites
- » Contacts

Figure 45 Admin Login Page

4.4.3 User Profile Page

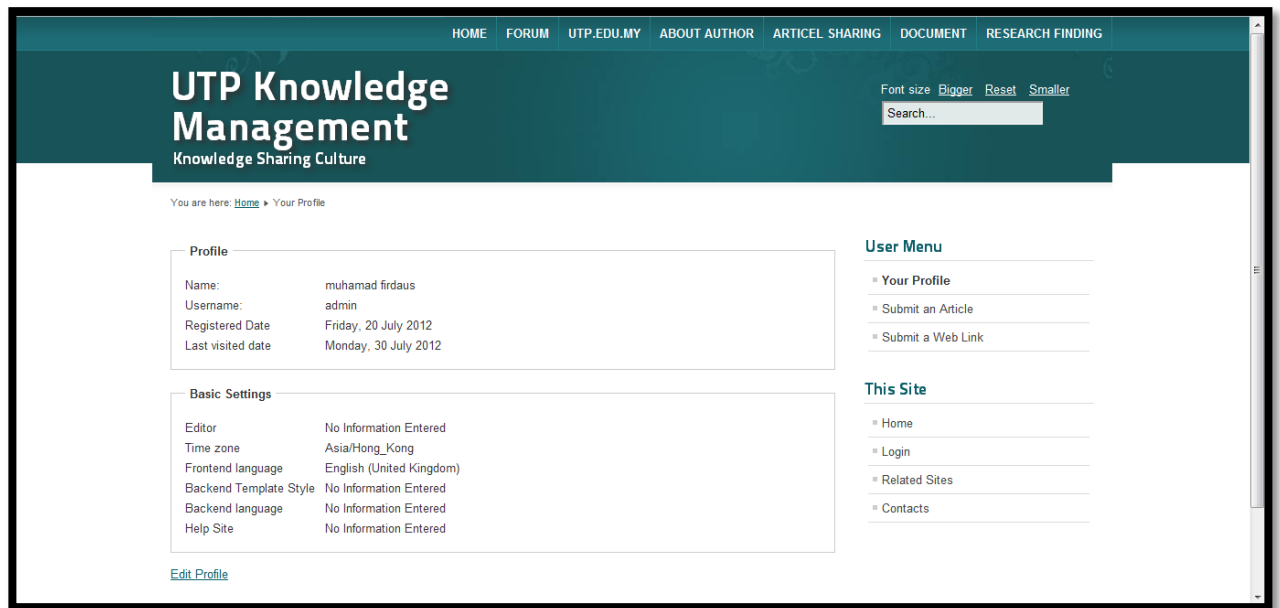


Figure 46 User Profile Page

4.4.4 Forum Page

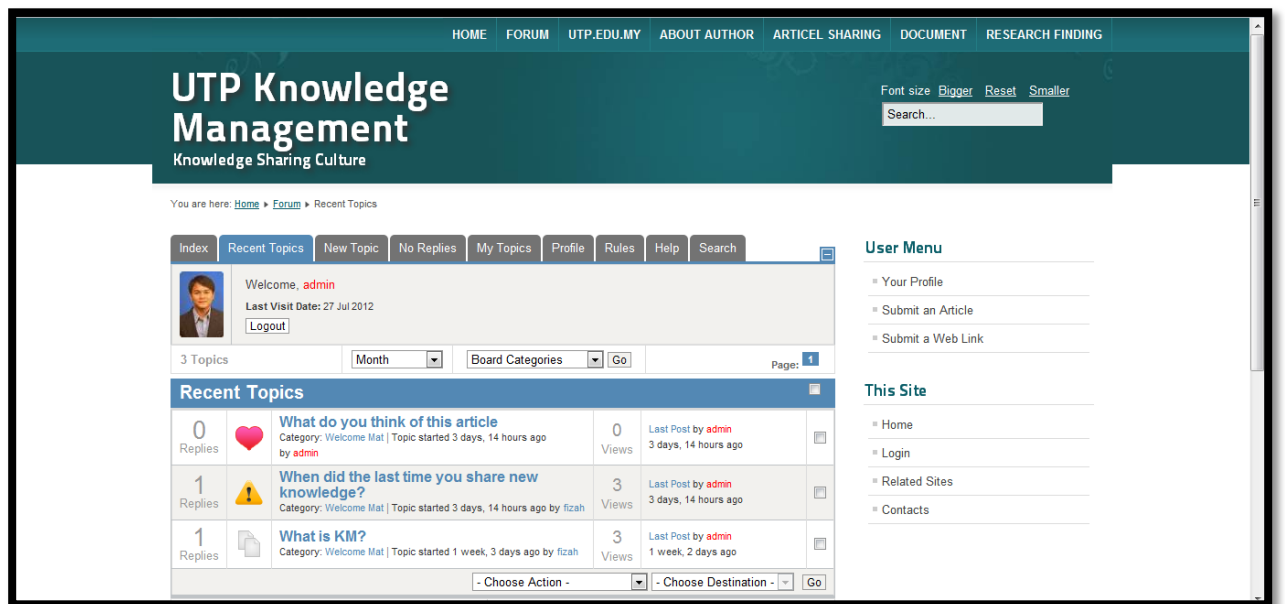


Figure 47 Forum Page

4.4.5 Forum Discussion Page

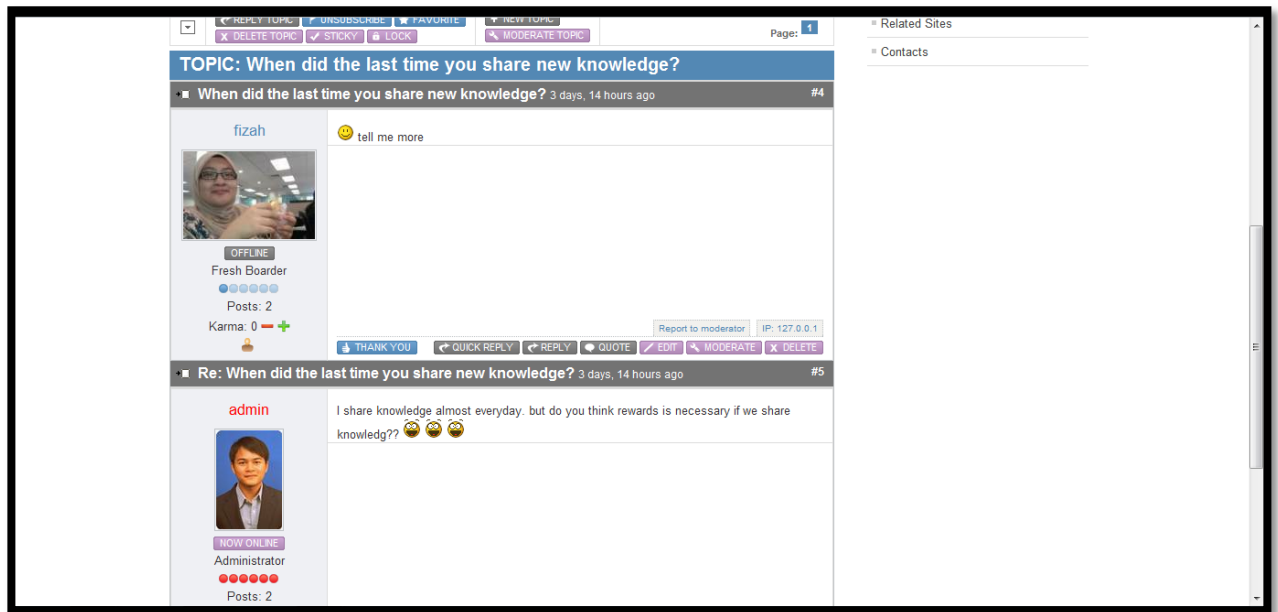


Figure 48 Forum Discussion Page

4.4.6 Article Sharing Page

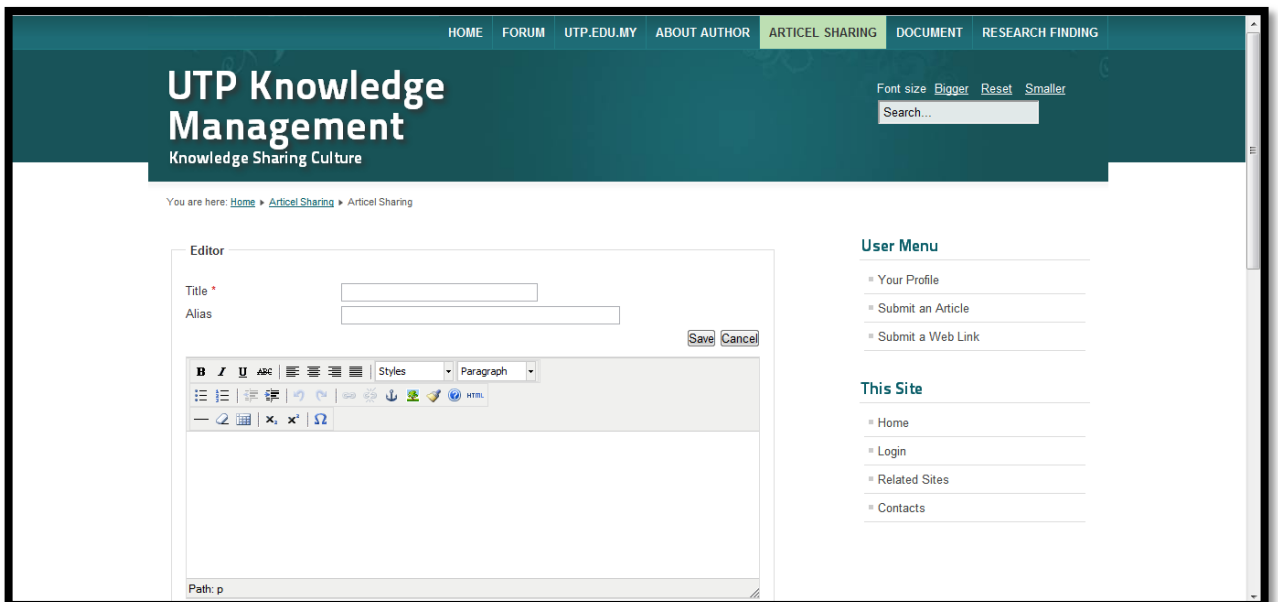


Figure 49 Article Sharing Page

4.4.7 Document Sharing Page

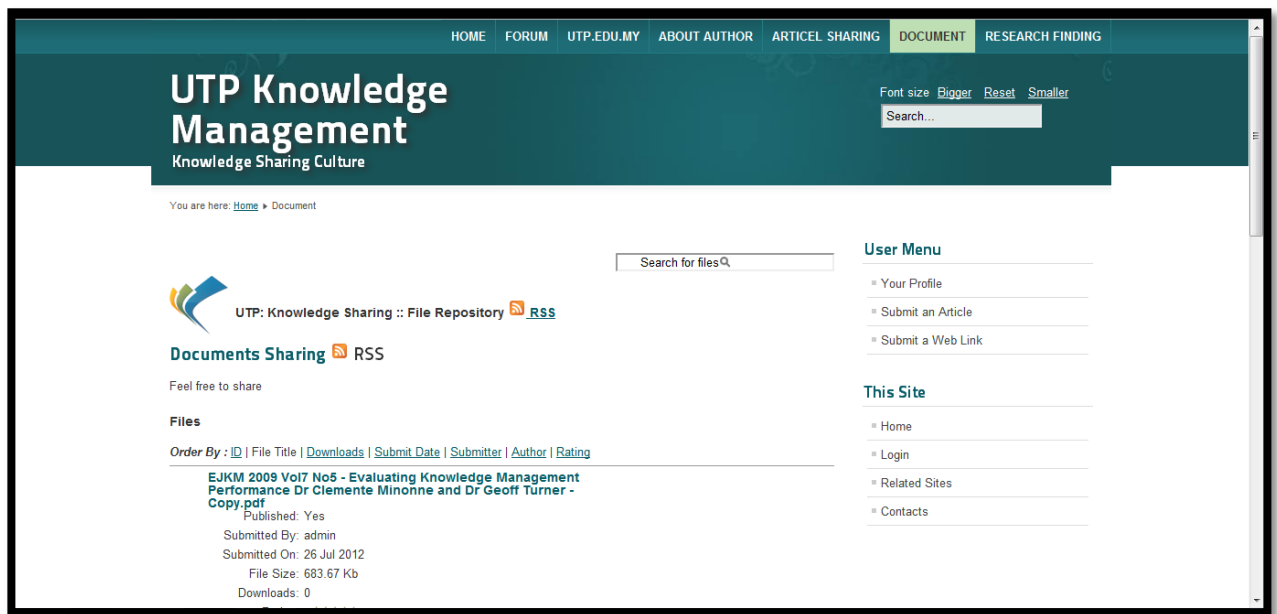


Figure 50 Document Sharing Page

4.4.8 Document Upload Page

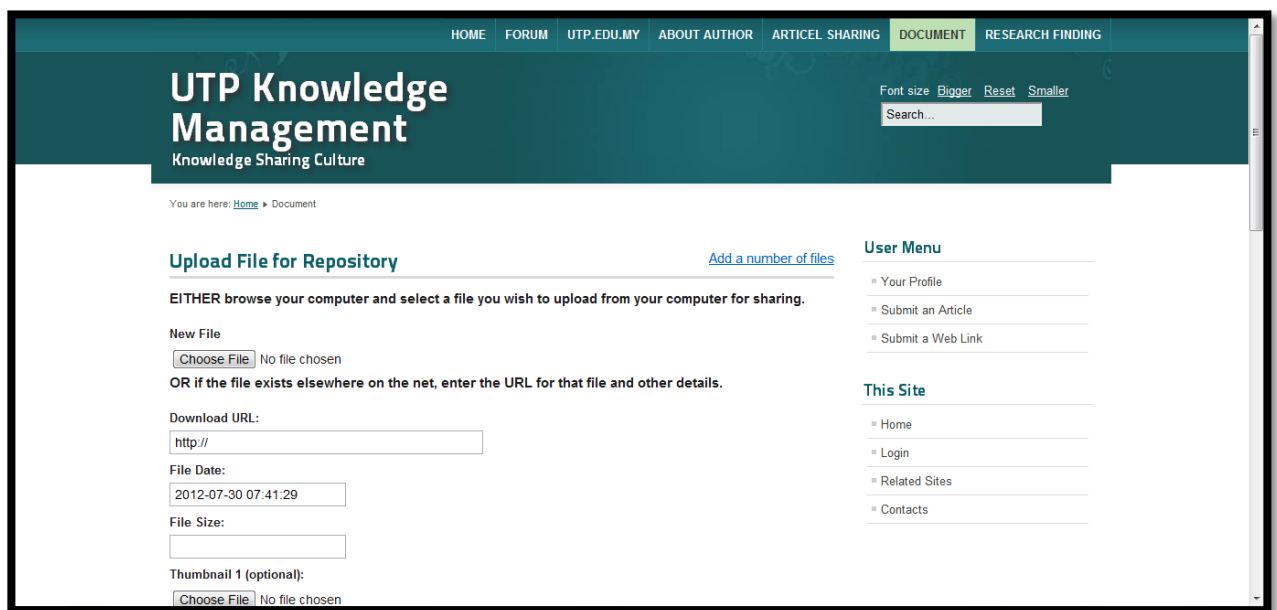


Figure 51 Document upload page

4.4.9 Research Finding Article Page

HOME FORUM UTP.EDU.MY ABOUT AUTHOR ARTICEL SHARING DOCUMENT RESEARCH FINDING

UTP Knowledge Management

Knowledge Sharing Culture

Font size: [Bigger](#) [Reset](#) [Smaller](#)

Search...

You are here: [Home](#) > Research Finding

Display # 10

Title	Author	Hits
Sharing, Capture and Barriers	Written by muhamad firdaus	5
Suggested Future Work	Written by muhamad firdaus	1
Interview Transcript	Written by muhamad firdaus	1
Discussion on Current KM Implementation	Written by muhamad firdaus	1
Survey Result From Respondent	Written by muhamad firdaus	2
Petronas KM Roadmap	Written by muhamad firdaus	14

User Menu

- » Your Profile
- » Submit an Article
- » Submit a Web Link

This Site

- » Home
- » Login
- » Related Sites
- » Contacts

Figure 52 Research Finding Article Page

4.4.10 Article in Research Findings Page

HOME FORUM UTP.EDU.MY ABOUT AUTHOR ARTICEL SHARING DOCUMENT RESEARCH FINDING

UTP Knowledge Management

Knowledge Sharing Culture

Font size: [Bigger](#) [Reset](#) [Smaller](#)

Search...

You are here: [Home](#) > [Research Finding](#) > Sharing, Capture and Barriers

Sharing, Capture and Barriers

Category: [Knowledge Sharing](#)
Written by muhamad firdaus
Hits: 5

| Print | Email

How often you share information about new things with your friends and colleagues?

Once a week 33%
Everyday 67%

Knowledge Sharing & Knowledge Capture

A survey was conducted among student and the community of youngsters at Universiti

User Menu

- » Your Profile
- » Submit an Article
- » Submit a Web Link

This Site

- » Home
- » Login
- » Related Sites
- » Contacts

Figure 53 Article in Research Findings page

4.4.11 Contact Page

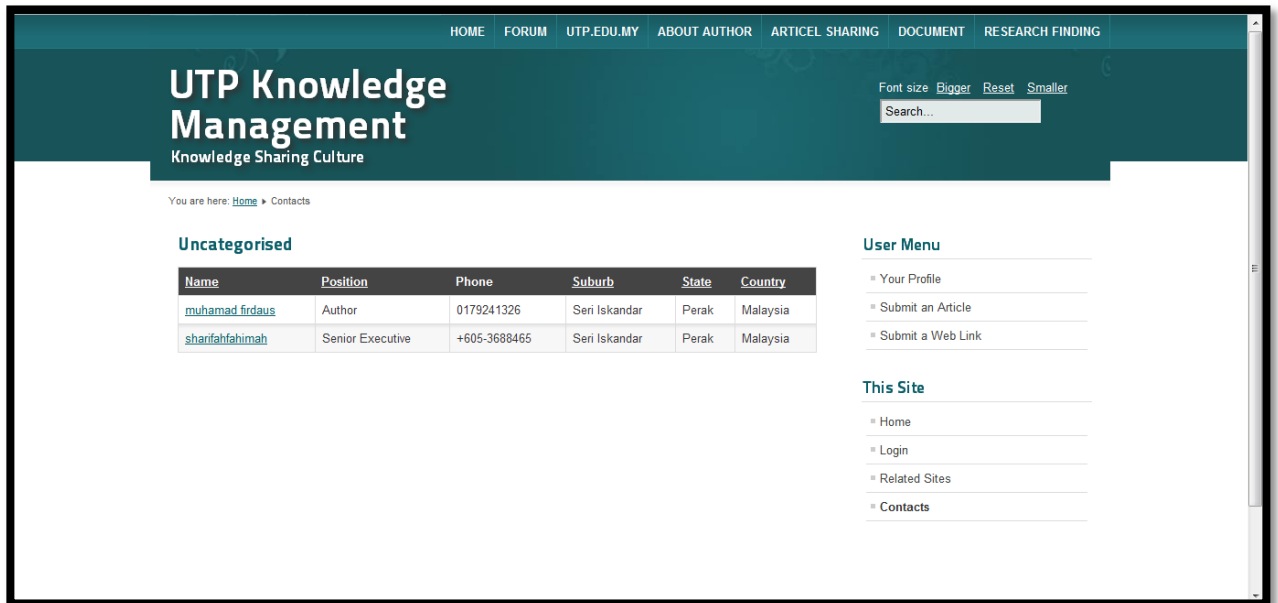


Figure 54 Contact page

CHAPTER 5

CONCLUSIONS & RECOMMENDATIONS

As for this year 2012, UTP KM Unit have started with the process of compiling all necessary document but the actual content of KM is not fully ready yet. Even the access to the actual system is restricted to authorized staff only. As according to plan, the KM System should be ready for the user especially the student by 2014. According to Ms. Sharifah from Universiti Teknologi Petronas (UTP) Information Resource Centre (IRC), system is not the main contribution to KM, it contributes only 35% and the rest 65 % is culture.

In UTP what is currently being done is the development of the culture for sharing knowledge. It has been started since 2008 up until 2010. The culture is developed through training and also awareness programs that have been conducted. By 2010 UTP

had already come out with the infrastructures but no in term of system infrastructure. Infrastructure here means UTP “How we get people to use the knowledge?” ” Who is the expert?”

The way UTP capture the knowledge in the community is by having a proper knowledge structure or in the more technical term is taxonomy. By saying the word taxonomy here we can say that what are actually the subjects taught in UTP? Are we only talk about Engineering or we talk about other things? Is our research only covers engineering field only or not? This question will lead to the other question that is, is UTP is a learning organization? Learning organization here means the knowledge is distributed, shared and reused in the community. In other word UTP is not ready yet for a full KM Performance evaluation. But we can narrow down the scope for developing culture of sharing knowledge in UTP among focuses the lecturer and the students since UTP are still in the phases of developing culture in the community.

This Knowledge Sharing portal also works as a basic preparation for the students especially to face the real KM implementation that scheduled to be implemented in 2014. Hence in the future, the students are more aware and more ready to use the formal KM system in UTP. Below are some of the figures related to the real KM System to be implemented.

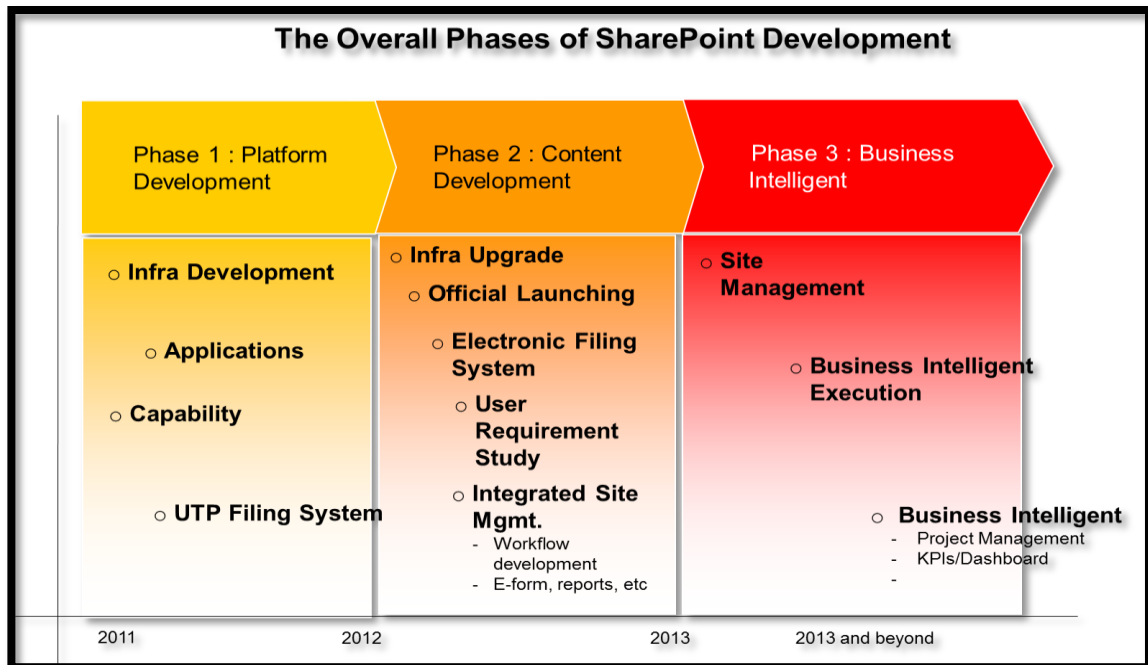


Figure 55 The Overall Phase of SharePoint Development

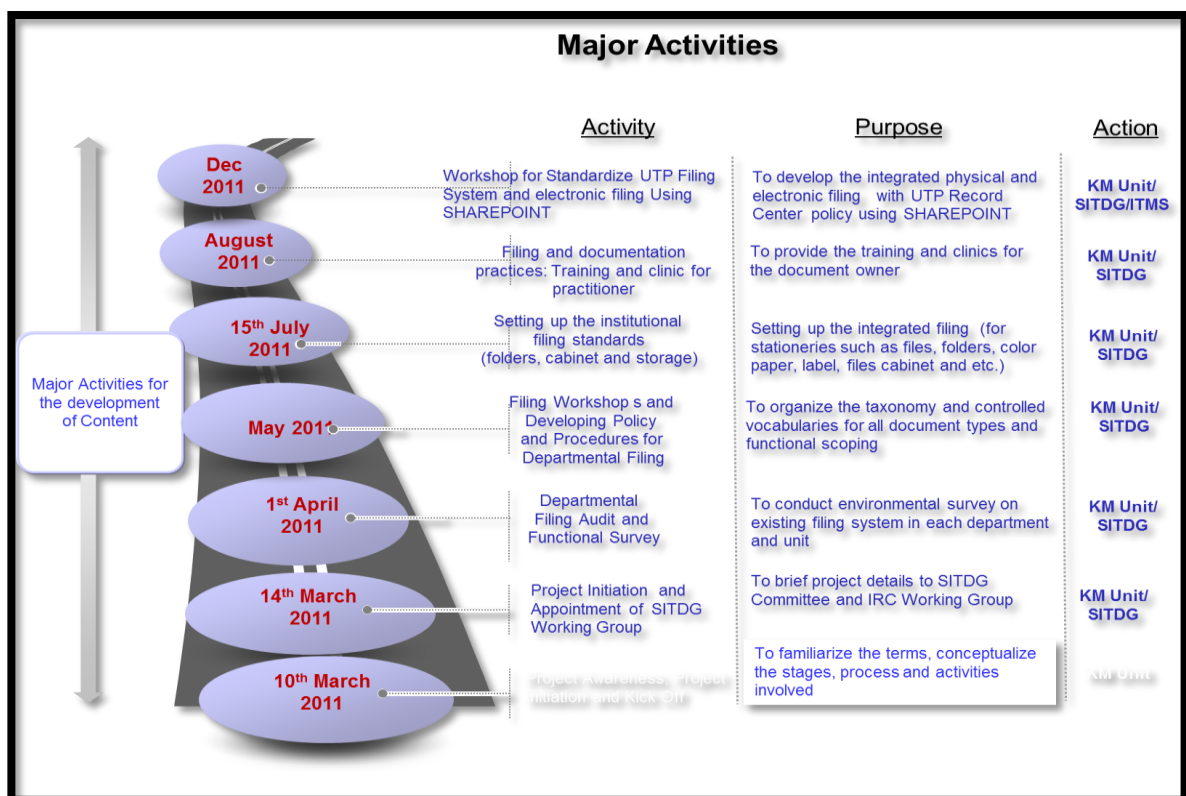


Figure 56 Major Activity for KM Development

Share Point Main Site



No of departments we have engaged : **26**

No of sites developed : **713**

No of sub sites developed: **1426**

Figure 57 SharePoint Main Site

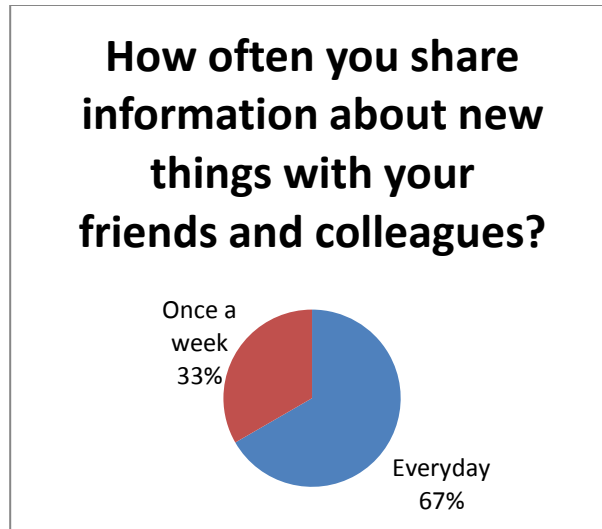


Figure 58 How often you share information about new things with your friends and colleagues?

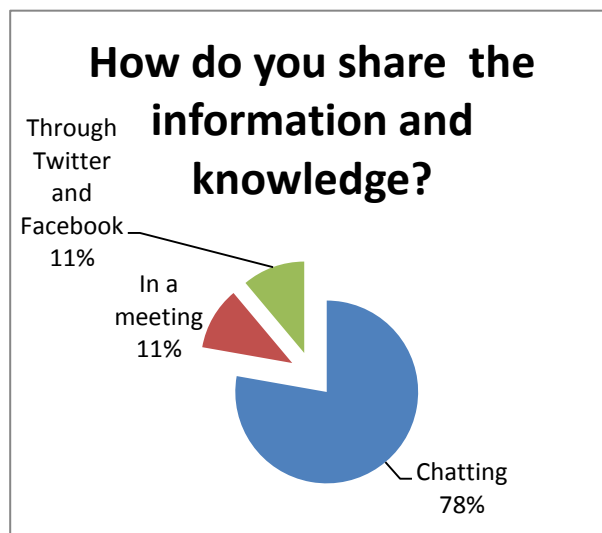


Figure 59 How do you share the information and knowledge?

A survey was conducted among student and the community of youngsters at Universiti Teknologi PETRONAS. 90% of them understand what in the basic idea of knowledge sharing. From the Figure 58 “Knowledge Sharing & Knowledge Capture” on the left shows that most of the student are talking and interacting with other friends and people in their community almost everyday. This might be supported with the idea that these

people are staying in the campus. In other hand, 33% of them that are not really interacting with other people as usual as others.

This lack of communication or sharing culture is one of the barriers that are found by this survey. Some of the tools that they have been using for sharing knowledge are identified. 78% of them are using the normal daily chatting as the source to get information. This might include the environment in classroom. Based on the finding, 47% of the respondent using technology as their tools, such as Twitter and Facebook compared to the previous result stated 11%. This latest technology makes them to interact with other people not only people around them. Technology is approved to help a lot in making knowledge haring more effective.

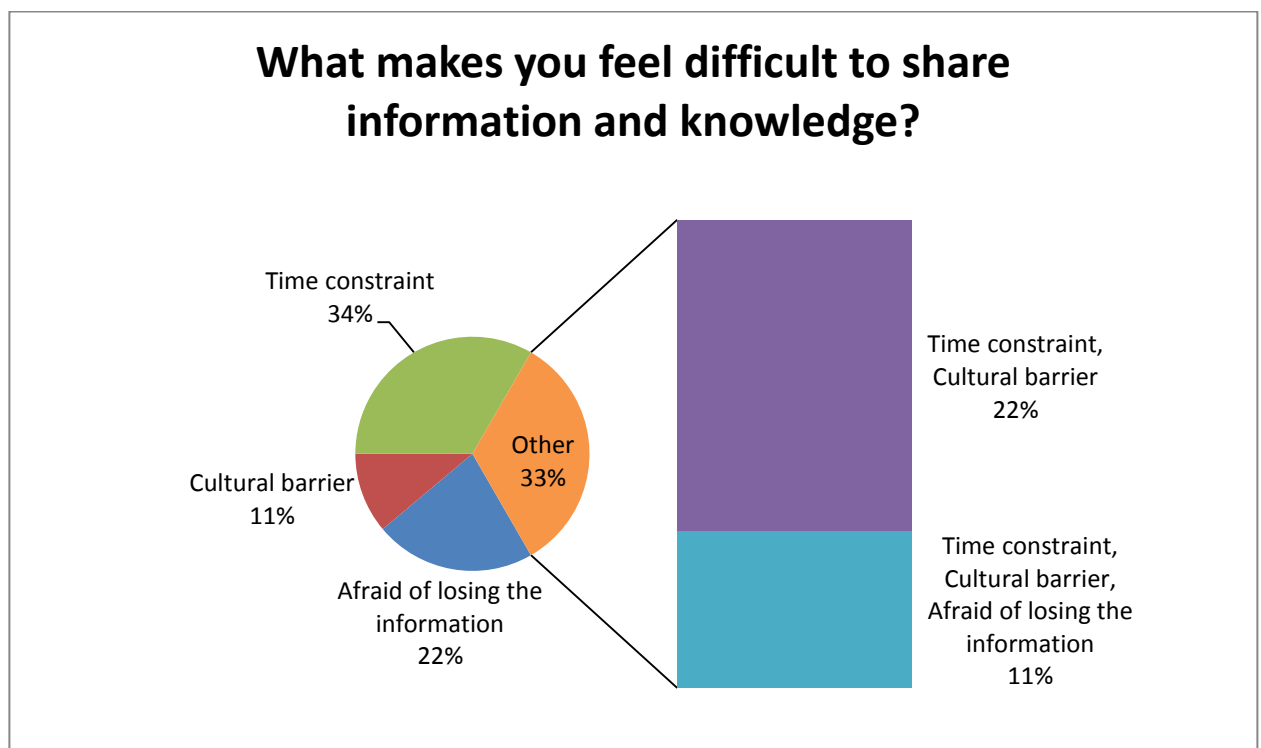


Figure 60 Knowledge Sharing Barrier

As conclusion we have found out few of the reason why the students reluctant to share do or in other words what makes them difficult to share. The biggest factor is time

constrains. This might be due to the hectic life of a student's where they do not really have a popper time to really share knowledge with other. The process of sharing knowledge might not work well within a short period of time. Some of them also thought of they might afraid that what they have share might be lost and they, the one that shared the knowledge lost their advantages. This might refer to the crucial knowledge. Some of them might rather keep the knowledge to themselves rather than sharing as the thought it might be their competitive advantages. From her we can see that the idea of how good knowledge sharing is not properly communicated to the community.

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APPENDICES

Appendix 1. Interview Outline

1. What course are you taken?
2. What do you use to share the knowledge?
3. Do you share your knowledge?
4. What do you think will be the factors that prevent people from sharing their knowledge?
5. Based on your opinion/ experience, what do you think will be the barriers in sharing the knowledge in individual /employee level?
6. Do you agree that culture of the company effect the knowledge sharing of the company? Why?
7. In an organization, what do you think will be knowledge sharing barriers?
8. In your opinion, what are the best practices to overcome the knowledge sharing barriers? Why?

Appendix 2: Research Survey

Knowledge sharing is an activity through which knowledge is exchanged among people, friends, or members of a family, a community or an organization. I would like to invite you to participate in a survey to obtain your perceptions of factors that affect the knowledge sharing implementation in UTP. If you have any questions about this research project, please call me at 017-9241326 or e-mail at firdauskhazimah@gmail.com Thank you in advance for your participation and assistance with this project. Your input is much appreciated.

Your age group?

- ☐ Under 20
- ☐ 20-24
- ☐ 25-29
- ☐ above 30

Please indicate your gender

What course are you taking?

- ☐ BIS
- ☐ ICT
- ☐ MECHE
- ☐ CHEME
- ☐ CIVIL
- ☐ PE
- ☐ PG
- ☐ EE

Please indicate knowledge sharing facilities provided in UTP campus

- ☐ Web sites
- ☐ Bulletin boards
- ☐ E-learning
- ☐ GTalk
- ☐ Facebook
- ☐ Twitter
- ☐ Blogs
- ☐ Groupmail
- ☐ Other:

What year are you in?

- ☐ Foundation
- ☐ First
- ☐ Second
- ☐ Third
- ☐ Final
- ☐ Postgraduates

Learning Environment to support knowledge sharing

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

Members in this community are free to share ideas because of the “blame-free” culture

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

Members know each other very well and this helps me to share knowledge with each other

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

In this community, those who success in their study(graduated) also willing to share the knowledge or information

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

In our community, people tend to wish the success of others

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

I feel happy working here because people in this community treat me as their “brother/sister”

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

My friends is approachable and friendly with other members

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

I only share my knowledge if people ask me for it

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

I like to work with others to develop my skills and knowledge

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

Being a university students requires us to frequently share our life experiences with other members

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

Working in a discussion group helps me to gain more knowledge rather than working independently

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

I feel is too hard to share knowledge with those who are more senior/experienced than me

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

In this community, we let people, especially junior members; learn from their own experiences rather than directly guiding them.

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

In our community, people enjoy helping other members

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

In this community we keep team members up to date with current information (e.g. news)

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

In this community, people often share tips to excel in study (e.g. how to get best result in academic year)

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

I prefer to communicate and share ideas with members via ICT facilities (e.g. email, YM messenger) rather than face-to-face meetings

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

Email or mailing lists (e.g. Google groups) are good platforms for us to freely disseminate information, (e.g. relating to learning experience, seminars, workshops etc.)

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

I have opportunity to share the video or pictures through web 2.0 tools (e.g youtube, flickr, picasaweb)

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

I have opportunity to share my life experience through web 2.0 tools(e.g blogspot, wordpress, fotopages,)

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

Facebook and Twitter is part of my everyday activity

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

My community provides an online discussion platform (e.g. web forum, knowledge blogs, community portal) that we often use to exchange study-related ideas

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

Appendix 3: Portal Usability Test Survey

This survey is conducted to find out the level of usability of the portal UTP Knowledge Sharing (prototype). You are given 5 minutes to go through the whole portal and another 2 minutes to complete the survey. Your respond will be much appreciated for the betterment of this portal. Thank you very much.

General Observation

1. How easy it is to navigate through the website?

1	2	3	4	5
Extremely Difficult	Difficult	Neutral	Easy	Extremely Easy

2. Are you familiar with the environment of this portal?

☐ Yes ☐ No

3. Look and Feel

a. Is the Portal consistent from pages to pages?

☐ Yes ☐ No

b. Are the colors chosen suitable for the Portal?

☐ Yes ☐ No(Please specify why)_____

c. Do you find this Portal informative?

☐ Yes ☐ No(Please specify why)_____

d. Is it easy to navigate?

☐ Yes ☐ No

e. Are you interested enough to use this portal?

☐ Yes ☐ No(Please specify why)_____

Appendix 4: Research Model

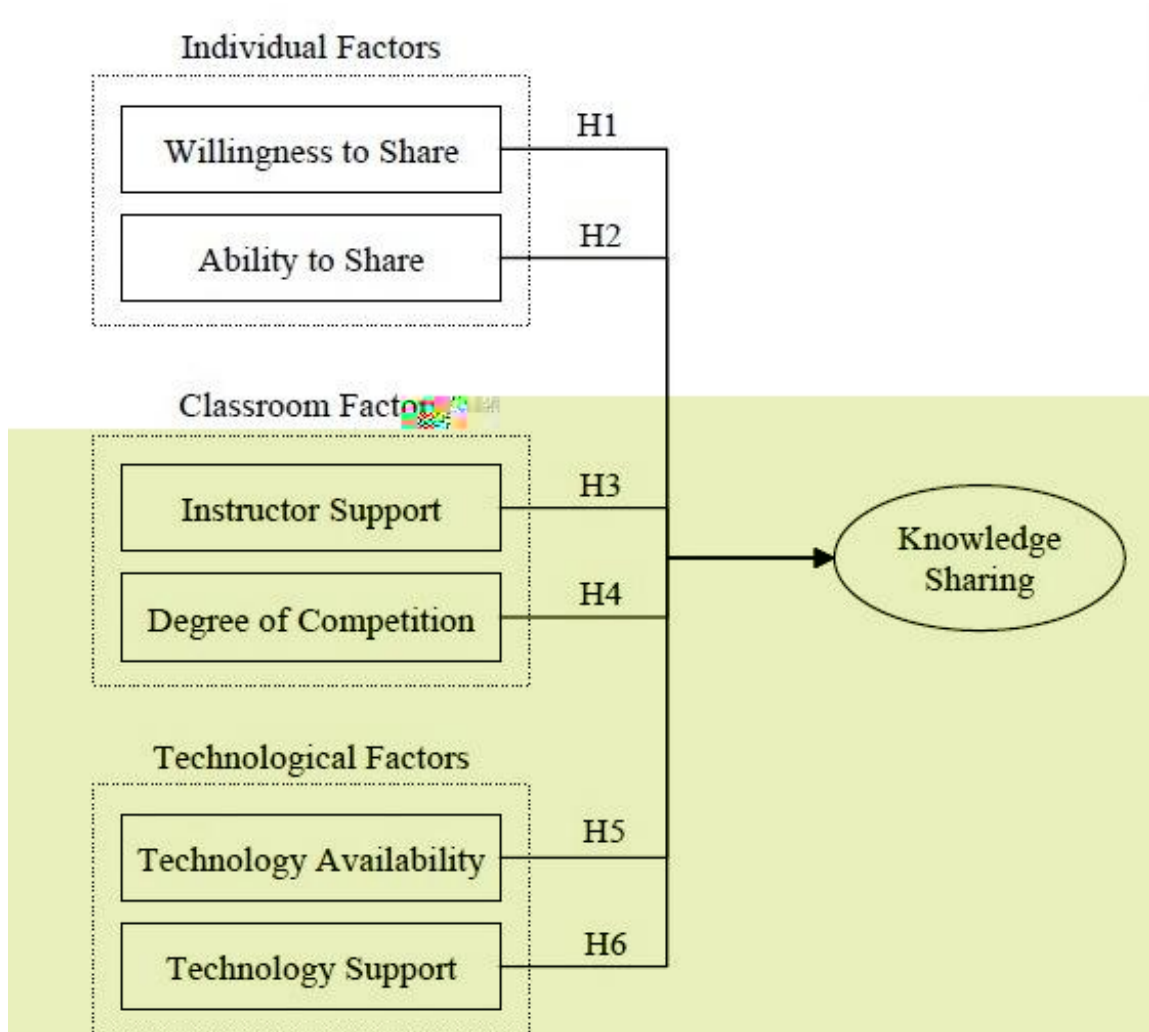


Figure 61 Research Model

Appendix 5: Knowledge Management Pyramid

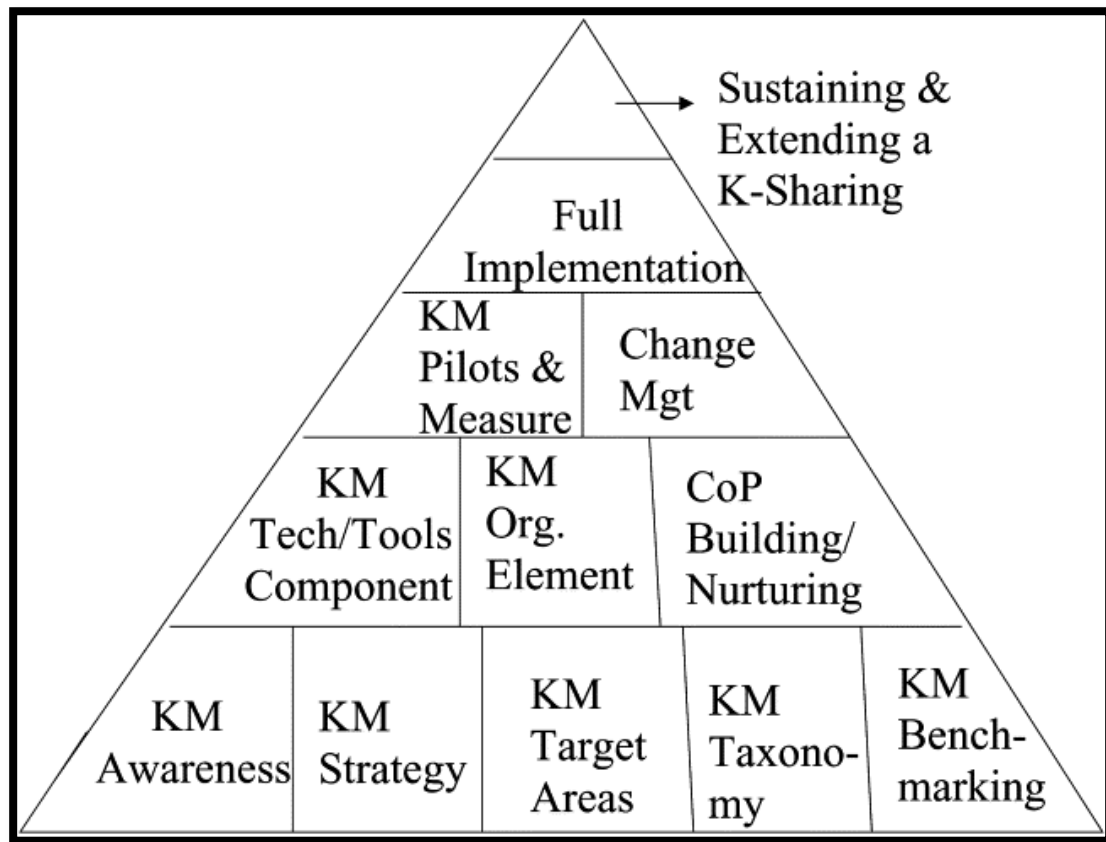


Figure 62 Knowledge Management Pyramid

Appendix 6: Theoretical Knowledge taxonomy

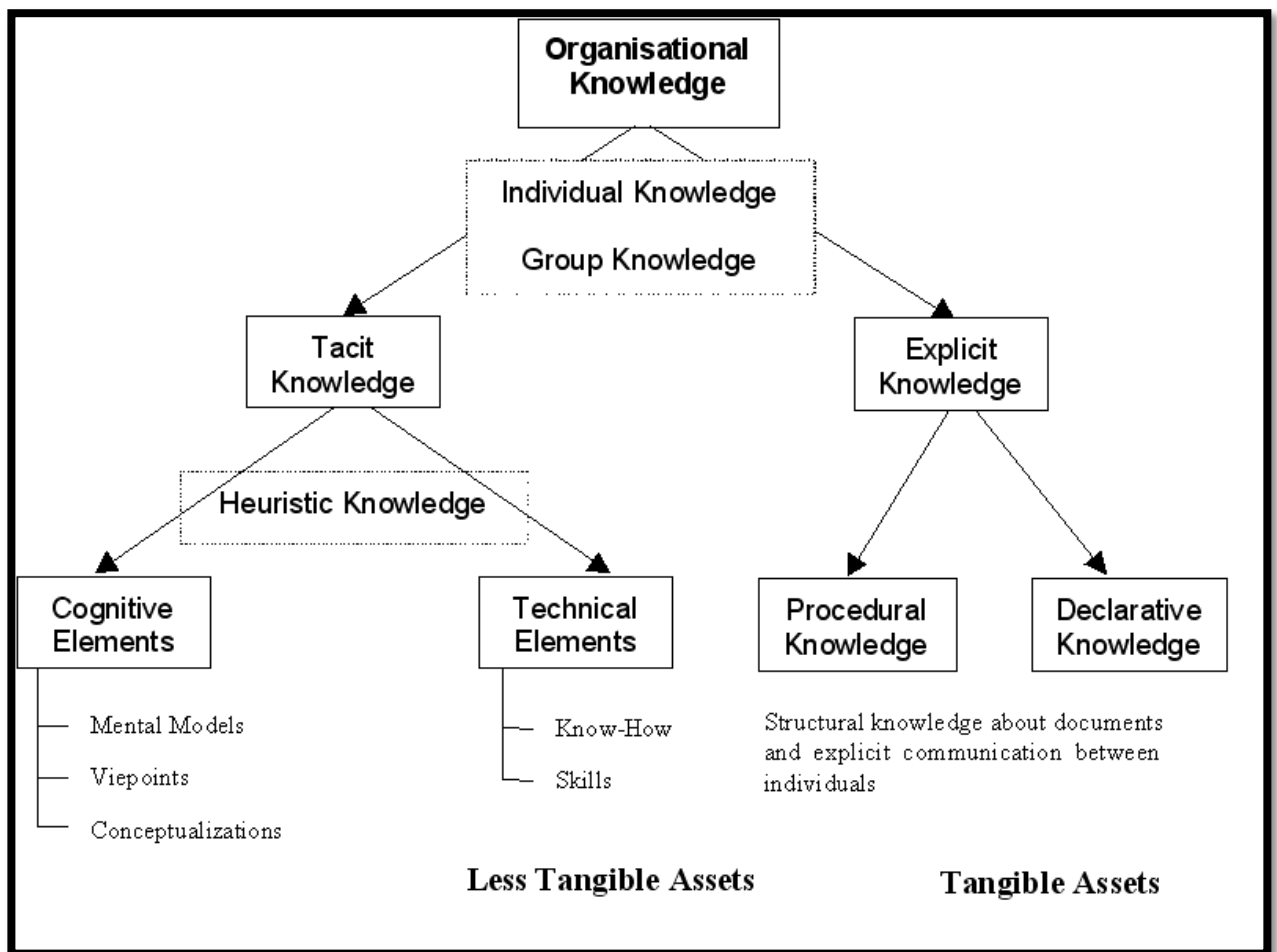


Figure 63 Theoretical Knowledge taxonomy from Vasconcelas, 2000

Appendix 7: Nonaka's Knowledge Management Model

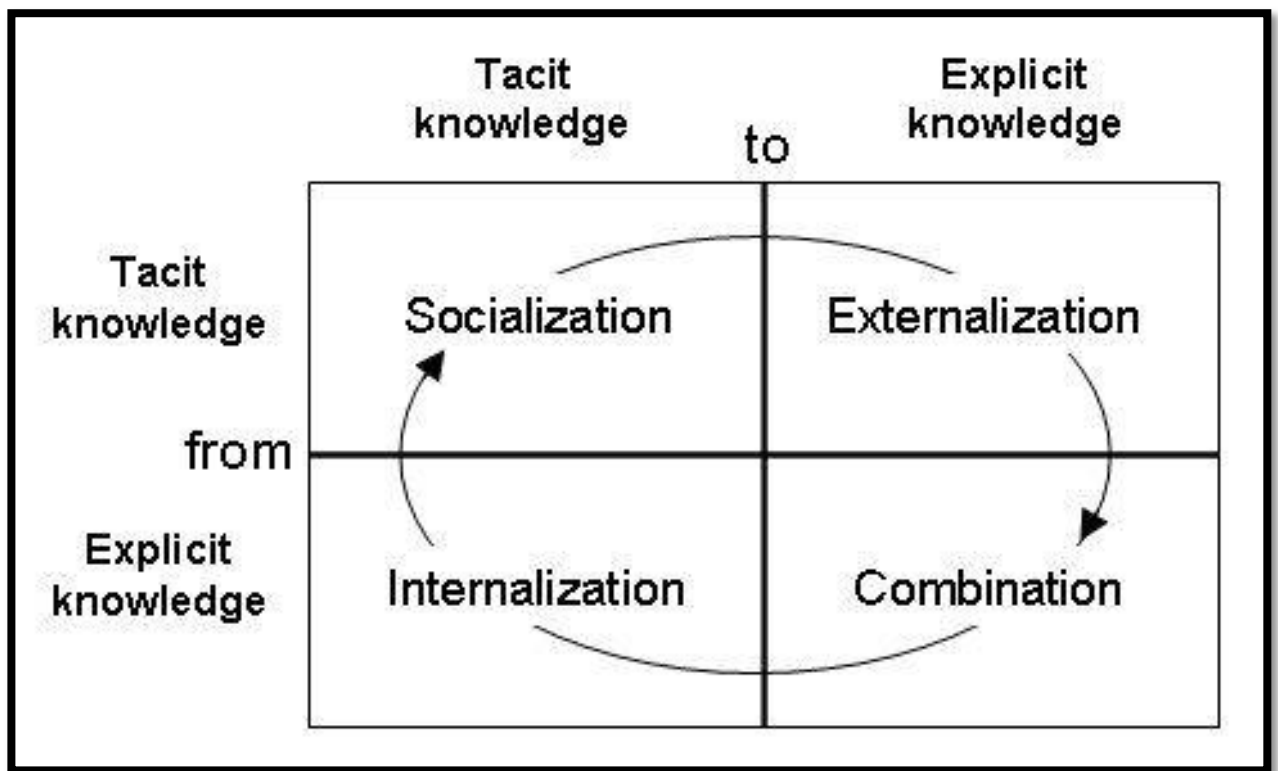


Figure 64 Nonaka's Knowledge Management Model

Knowledge Management: Performance Evaluation for Culture Development in Sharing Knowledge at UTP

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Abstract — This project implements one of the aspects in Knowledge Management that is performance evaluation. To be specific it will focus on the aspect of developing culture of sharing knowledge in Universiti Teknologi PETRONAS (UTP). This aspect is being chosen because currently this is the aspect that is ready to be evaluated in UTP. The main objective is to ensure that the basic development of the whole knowledge management infrastructure in UTP had reached an optimum standard in the industry of higher learning institute. Implementing of Knowledge Management (KM) is not only focused on the business organization but also in educational institutions. This project is basically will identify the quality of the states of implementing of KM in UTP based on the focus aspect that is developing culture of sharing knowledge. Hence this project also helps to preserve the knowledge as the higher learning institution's competitive advantages. KM tools that specific in doing performance evaluation is selected in order to perform is project. All the result of this research will be publish in a portal that have additional feature like forum page, document sharing page, article sharing from experts and etc. **Keywords** - Inventory Management; Inventory Control; Stock Age; Quantity Level Tracker; Re-Order Point; Procurement process

• INTRODUCTION

Implementing of Knowledge Management (KM) is not only focused on the business organization but also in educational institutions. The usages of KM become more important in higher learning institution due to the knowledge available not only from the lecturer but also from all the community in the campus. There is a need in revolution from conventional education and the usage of latest technology in enhancing the quality of knowledge. This project is basically will identify the quality of the states of implementing of KM in one organization. As the KM is widely

implemented in this current organization, there is still lack of standard awareness that might affect the quality of the knowledge shared. Current higher learning institutions also have more knowledge appear from research and etc. Hence this project also helps to preserve the knowledge as the higher learning institution's competitive advantages.

Scope of study for this project will be focused on the assessing the implementation of KM in the campus of UTP. This project will identify the current condition of KM implemented UTP and will provide sufficient review and recommendation towards a better implementation of the KM in higher learning institution. This study will be a benchmark to other higher learning institution for a betterment of standard in implementing KM.

I. RELATED WORKS

A. Knowledge Management in Higher Learning Institutions

Academic institution have to meet the growing challenges of the new education and training needs of the economy, the shifting of demand of employers and the changing aspiration of students. To meet these challenges of expending educational scenario, new technology and implementation have to be embraced ^[1]. More research and studies has been conducted and also the related information and knowledge is needed to be preserved and manage.

Repositories are important for universities and colleges in helping to manage and capture intellectual assets as a part of their information strategy. A digital repository can hold a wide

range of material for a variety of purposes. It can support research, learning and administrative process ^[2].

Can an organization improve without first learning something new? Solving a problem, introducing a product, and reengineering a process all require seeing the world in a new light and acting accordingly ^[3]. That is the reason why the KM scholar introduces the KM performance evaluation in order to ensure that the implementation of KM can really support the knowledge itself.

In general, then, universities do not lack data, and in some senses, knowledge repositories, but few organisations have an integrated collection of knowledge, embedded either in one knowledge repository, or in a series of linked repositories. In order to facilitate the operation of knowledge based operation these need to encompass both internal and external knowledge, and explicit and elicited tacit knowledge, in support of the evolution of the business. We are a long way from a scenario in which each member of the community that is the university has access to the combined knowledge and wisdom of others in the organisation, and has access to that knowledge in a form that is packaged to suit their particular needs. In general we have not made explicit the knowledge requirements of different segments in the university community. Many institutions have taken the first step, and have created converged library and information systems departments, but this restructuring is often more systems driven than knowledge driven ^[4].

Based on the study in 2005, the implementation of Knowledge Management (KM) in Malaysian higher education is still in the intermediate level. Only 47.1% of Public Institution of Higher Education has implement or starting the implementation process of KM in their organization. Other universities still not implement KM in their organization or not sure about this thing ^[5].

The component within the knowledge management community is that 80% of knowledge management is people and culture, and 20% is technology. A key component of the people and culture factor deals with encouraging and promotes a knowledge sharing environment within the organization ^[6].

From the study in 2005, several suggestion is needed to motivate the community in the university to get involves in knowledge sharing. For example Malaysian universities need to establish a new policy through the Ministry of higher Education particularly motivation the people to share and use knowledge by offering incentive and advantages ^[5].

• METHODOLOGY

○ *Research Methodology*

This section focuses on giving the insights on how the research is carried out. This includes the mode of data collection, how the data is analyzed and the research tool design.

Vital information for this research work are collected through primary and secondary sources with the combination of:

- (4) Interview with the key personnel in the KM Unit, Information Resource Centre (IRC) UTP
- (5) Document reviews which consists of PETRONAS Education Division KM Roadmap and UTP KM Roadmap
- (6) Survey will be conducted on the selected populations, which consist of UTP students.

○ *Tools and Equipments*

The hardware and software specifications of this project include:

- i. Regular PC or Laptop
- ii. Internet connectivity
- iii. Internet browser

In this context, Acer Aspire 4736Z is being used for development and testing purposes. The device has an installed Microsoft Office Suites 2010 and Google Chrome as the browser. The prototype of the portal is developed by using Open Source Joomla!.

○ System Methodology

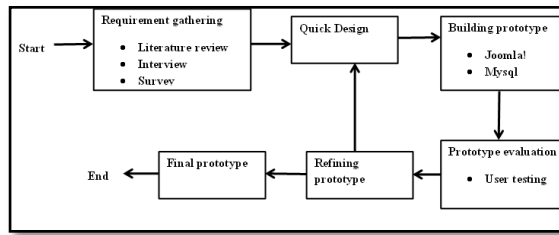


Figure 65: Prototype Methodology

Based on the fact-finding activities findings, it can be said that the proposed system should be developed in a prototype methodology, which requires the developer to always analyze and design the current prototype state with the user to ensure the developer meet the user requirements, as user requirements tend to change from time to time.

○ System Architecture

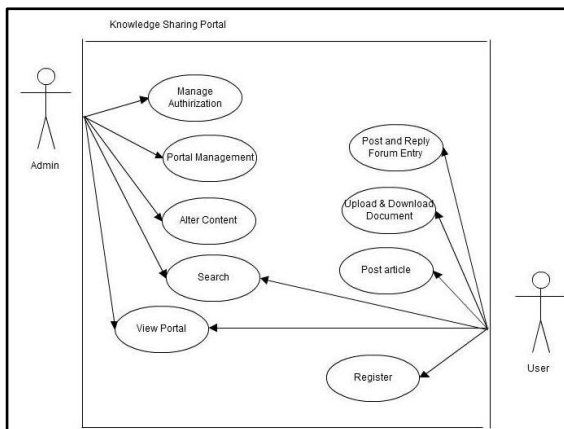


Figure 66 : Use Case Diagram for Portal

The prototype will be handled mainly by the portal admin.

- Actor: Portal admin
- Role: Maintain and update the portal
 - Manage user who register through the portal
 - Maintain and reviewing entry at the forum pages
 - Monitor documents being uploaded by the user.
 - Publish article from the experts
 - Altering the configuration of the component in the portal

- Actor: User
- Role: Use the available function at the portal
 - Register as a user
 - Create and participate in the forum such as create new entry and responds to other entry
 - Upload and download document
 - Post Article at the Article Sharing Page (Experts)
 - Read Research Findings article

○ Evaluation

This portal has been tested generally by a group of students that act as the normal user on normal environment of the portal. The testing is mainly cover aspect from the usability if the component in the portal, the colour of the portal and also the information worthiness of the portal.

The questionnaires consist of 6 questions. One of the questions the respondent need to rate between 1 and 5 where 1 is Extremely Difficult and 5 is Extremely Easy. The rest is a Yes or No question.

• RESULT AND DISCUSSION

Result is divided into two parts. The first one is the result from the research that emphasize on the current state of KM implementation in UTP. Respondents are UTP Students that varies from Foundation year to Postgraduates students. The research covers the aspect of Knowledge Sharing among student, the barriers from sharing knowledge and the awareness of the importance of knowledge sharing in academic institution.

○ Research Findings

Please indicate knowledge sharing facilities provided in UTP campus

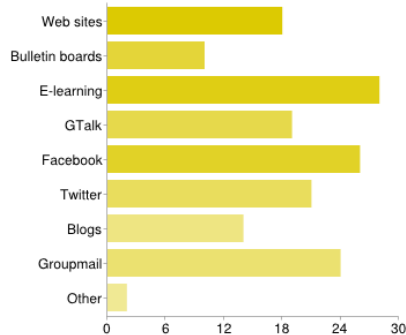


Figure 67: Knowledge Sharing facilities provided in UTP campus

78% of the respondent stated that UTP E-learning is one of the Knowledge Sharing facilities provided to share knowledge. 72% also stated that social networking site like Facebook is the medium to share knowledge among student.

Apart from that 56% of the respondent agreed that UTP community is willing to share the knowledge among them where only 8% strongly disagree with that statement. This shows that UTP KM still need to develop the awareness of the importance of sharing knowledge among the community.

Working in a discussion group helps me to gain more knowledge rather than working independently

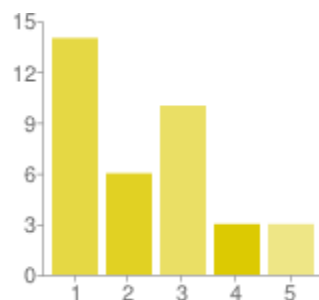


Figure 68: Discussion vs. working independent

In another aspect 56% of the respondent agreed that working in a discussion group help the gain more knowledge that working individually. By using statistic the KM unit of UTP should be aware of the needed on how to promote knowledge sharing and promote the usage of KM System in the near future.

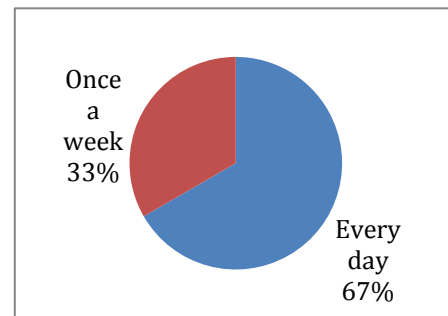


Figure 69: How often you share information.

90% of the respondents understand what in the basic idea of knowledge sharing. In Figure 5, most of the student are talking and interacting with other friends and people in their community almost everyday. This might be supported with the idea that these people are staying in the campus. In other hand, 33% of them that are not really interacting with other people as usual as others.

○ Portal Usability Survey

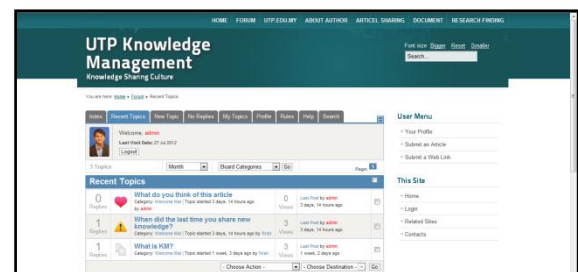


Figure 5: Forum Page

Figure 5 show one of the functions that available at the portal that is the Forum. Here, the registered user can post and create new entries. The entry will be monitored by the admin and other registered user can participated in the conversation and discussion.

Other function that available is the Document Sharing page. In this page the registered user can upload and download document that available at this page. Admin can manage and put restriction if necessary

Other than, experts who were being granted super user access can post article related to their expertise. This will promote knowledge sharing among the user and the community. User also can choose and view latest article by admin regarding the development of sharing culture at Research Finding Page. If there is any inquiries regarding the page or the content, users can directly go to the Contact page to have contact information of the Administrator

Results of the Portal usability test are shown in the graphs below:

How easy it is to navigate through the websites? (1: Extremely Difficult, 5: Extremely Easy)

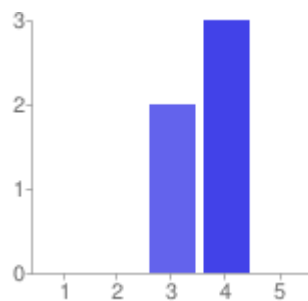


Figure 8: How easy to navigate?

The Respondents who participate in the usability testing were agreed that it is easy to navigate through the portal and to use preferred function. None of the rate 5 that is extremely difficult.

Do you find this portal informative?

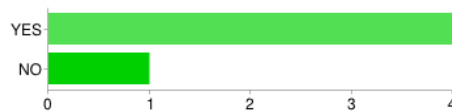


Figure 9 Portal information

Based on the survey 80% of the respondent said that this portal is informative and useful as a tool to create the awareness of UTP knowledge sharing and the real implementation of UTP KMS (SharePoint) in 2014

Although some of the respondents still do not familiar of this kind of portal, 80% of them are still interested in using this portal if this portal going live. By referring to the respond, the real KM implementation in 2014 will going to be smoothly implemented. It is because this prototype of portal is similar to the real one that going to be implemented in UTP.

Table 2: Usability Survey Summary

Questions	Percentages (%)
1. Are you familiar with the environment of this portal?	YES 20% NO 80%
2. Are the colors chosen suitable for the Portal?	YES 100% NO 0%
3. Do you find this Portal informative?	YES 80% NO 20%
4. Is it easy to navigate?	YES 100% NO 0%
5. Are you interested enough to use this portal?	YES 80% NO 20%

• CONCLUSION AND FUTURE WORK

As for this year 2012, UTP KM Unit have started with the process of compiling all necessary document but the actual content of KM is not fully ready yet. Even the access to the actual system is restricted to authorized staff only. As according to plan, the KM System should be ready for the user especially the student by 2014. According to Ms. Sharifah from Universiti Teknologi PETRONAS (UTP) Information Resource Centre (IRC), system is not the main contribution to KM, it contributes only 35% and the rest 65 % is culture.

In UTP what is currently being done is the development of the culture for sharing

knowledge. It has been started since 2008 up until 2010. The culture is developed through training and also awareness programs that have been conducted. By 2010 UTP had already come out with the infrastructures but no in term of system infrastructure. Infrastructure here means UTP “How we get people to use the knowledge?” ” Who is the expert?”

This Knowledge Sharing portal also works as a basic preparation for the students especially to face the real KM implementation that scheduled to be implemented in 2014. Hence in the future, the students are more aware and more ready to use the formal KM system in UTP. Below are some of the figures related to the real KM System to be implemented.

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